DRAFT

ENVIRONMENTAL IMPACT REPORT

SCH NO. 92122093

SANITARY SEWER MASTER PLAN

CITY OF VISALIA

FEBRUARY, 1994

PREFACE

This environmental Impact Report (EIR) has been prepared under the auspices of the City of Visalia for the adoption and implementation of the Sanitary Sewer Master Plan that recently was prepared for the City by Boyle Engineering Corporation. The EIR conforms to the requirements of the *California Environmental Quality Act* (CEQA), *CEQA Guidelines*, and to the administrative procedures established by the City of Visalia for the preparation and processing of environmental documents. The City of Visalia is designated as the Lead Agency for this project.

This EIR is an informational document, the purpose of which is to provide the general public and appropriate governmental decision makers with a full understanding of the potential environmental effects of the proposed project. The process associated with the review and adoption of an EIR allows the public and decision makers to evaluate the significance of the effects of a project, examine methods of reducing the significance of identified adverse impacts, and consider alternatives to a project.

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PROJECT DESCRIPTION

The City of Visalia is proposing to adopt and implement a 50-year sewer system master plan that identifies the improvements needed to serve the planned land uses of the City's *Land Use Element* of the General Plan (*2020 Plan*), as well as future development outside of the 2020 Urban Development Boundary (UDB).

The Master Plan improvements that are recommended to serve "pre-2020" development and "post-2020" development are described below. A discussion of the two major trunk lines that the City tentatively intends to install by the year 2000 also is provided below.

Pre-2020 Development

Using the calibrated flow generation rates that were established for the existing land uses in Visalia, the flows that will be generated by the planned land uses within the City's 2020 UDB were estimated. Based on these estimated flows, the improvements that will be needed to serve future development through the year 2020 were identified. These "pre-2020" development improvements (and the timing of the improvements) are summarized below. Refer to Figure 2-2 for a graphical representation of the improvements.

Road 76-Sunnyview Line

1993 to 2000: 8,800 feet of pipe to serve the area along Road 80 between State Route 198 and Goshen Avenue; 17,500 feet pipe and upgrading the lift station at Goshen Avenue and Camp Drive to serve the community of Goshen; and upgrading the lift station at the Airport to serve the community of Goshen and other development.

2001 to 2010: Upgrading the lift station at the Airport to serve development in the industrial area.

2011 to 2020: No major improvements recommended.

Avenue 276-Road 148 Line

1993 to 2000: 21,100 ft of pipe to serve the area north of Caldwell between Santa Fe and Lovers Lane.

2001 to 2010: 13,200 feet of pipe to serve the area north of Avenue 272 between Santa Fe and Road 148, and the area north of Caldwell between Lovers Lane and Road 148.

2011 to 2020: 21,100 feet of pipe to serve the area east of Road 148 between Avenue 272 and Houston Avenue.

Shirk-Riggin Line

1993 to 2000: 25,100 feet of pipe (with a connection to the existing Sunnyview line at Shirk) to serve the area along Riggin between Shirk and Santa Fe.

2001 to 2010: No major improvements recommended.

2011 to 2020: 26,400 feet of pipe to extend the Shirk line to Walnut and serve the area along Riggin between Santa Fe and Road 152.

Avenue 320 Line

1993 to 2000: No improvements needed.

2001 to 2010: No improvements needed.

2011 to 2020: 16,000 feet of pipe (with a connection to the Shirk line at Riggin) to serve the area along Avenue 320 between Shirk and Mooney.

Road 76 Line

1993 to 2000: No improvements needed.

2001 to 2010: 13,200 feet of pipe (with a connection to the existing Road 76 line at Sunnyview) to serve the area north of Riggin between Road 76 and Road 84.

2011 to 2020: 2,600 feet of pipe to serve the area north of Riggin between Road 84 and Shirk.

Post-2020 Development

Because the *2020 Plan* policies encourage the preparation of a long-range, 50-year sewer master plan, some of the trunk lines identified above have been sized to serve lands that are between the 2020 UDB and the 2020 Urban Area Boundary (UAB) in addition to lands within the 2020 UDB. This approach to sizing trunk lines was considered cost-effective, long-range planning because the cost of "up-sizing" the pipe is relatively small when compared to the cost of installing new parallel or replacement lines in the future (to serve lands outside the 2020 UDB). However, this "up-sizing" of the lines to accommodate flows from areas outside the 2020 UDB potentially is "growth inducing" because it may result in pressures to prematurely develop lands outside of the 2020 UDB.

The planned post-2020 improvements tentatively include an extension of the planned Avenue 320 line east of Demaree to Road 148; and an extension of lines (that connect to the planned Road 148 line) to serve lands east of Road 152. For the purpose of sizing these post-2020 improvements (and the "downstream" pre-2020 trunk lines), it was assumed that the lands served will be developed with a combination of land uses; 70 percent residential, 20 percent commercial, and 10 percent open space. The planned post-2020 improvements also include lines in the northwest industrial area.

It should be noted that for the purpose of preparing the Master Plan, it was assumed that the area between the 2020 UDB and UAB south of Avenue 272 will not be developed with urban uses prior to the year 2040 because the City has expressed an interest in maintaining this area in agriculture as a buffer between Visalia and Tulare. Therefore, in an effort to reduce the potential for pressure to prematurely develop lands south of Avenue 272, the Avenue 276 line has been sized to serve only lands within the 2020 UDB. However, as recognized in the Master Plan, should the City's policy on development south of Avenue 272 change prior to the installation of the Avenue 276 line, this line could be used to serve future development south of Avenue 272 in accordance with the recommendations of the *2020 Plan*. In that event, the alignment and diameter of the line may be subject to change.

Pre-2000 Improvement Projects

Prior to the 2000, the City tentatively plans to install the two major trunk lines that the Master Plan indicates will be needed to serve development during the initial growth period (1993-2000) of the *2020 Plan*. The two trunk lines are the Shirk-Riggin line the Avenue 276 line.

The Shirk-Riggin line will be installed first and the City has prepared preliminary plans for this project. A description of the Shirk-Riggin line project is given below. Plans for the Avenue 276 line and other Master Plan improvements will be prepared in the future.

Shirk-Riggin Trunk Line Project

The initial phase of the Shirk-Riggin line will connect to an existing 30-inch line in Sunnyview that currently terminates at Shirk, extend north approximately 1,800 feet to Riggin, where it will turn east and extend three miles to Mooney Boulevard. This initial phase of the line, which will range in diameter from 48 inches in Shirk to 27 inches at Mooney, will serve the area north and south of Riggin between Shirk and Mooney that is designated for development during the first growth period of the *2020 Plan* (1993-2000). Subsequent extensions of the line will serve areas east of Mooney.

On Shirk Road, the City tentatively plans to install the new line within the existing right-of-way. The City expects that it will be necessary to close at least one lane of Shirk to through traffic during the installation of the line, which should take approximately four weeks. For the 1,200 foot segment of Shirk that is outside of the City Limits, the City will obtain an encroachment permit from Tulare County and comply with applicable County requirements.

On Riggin Avenue, the City plans to install most of the line outside of the paved section of the roadway to avoid disrupting the traffic flow on Riggin. However, the existing right-of-way, which typically is 40 feet wide, does not provide enough room outside of the paved section to accommodate the pipeline installation operation. The installation operation will require a working area approximately 40 to 50 feet wide in order to dig a trench up to 20 feet deep and stockpile the excavated material. Based on this need, the City intends to acquire additional right-of-way (on one-side of the roadway) to install the pipeline.

It should be noted that the City expects that Riggin eventually will be improved to a four-lane, divided roadway within a 110-foot right-of-way. Because the City wants to have the planned sewer line within the paved section of the future roadway, it was necessary for the City to establish a preliminary alignment for the future Riggin Avenue right-of-way before the alignment of the sewer line could be developed.

For the purpose of installing the sewer line, the City will acquire the additional right-of-way needed for the future widening of Riggin Avenue (on the side of the roadway that the pipeline will be installed). The additional right-of-way that is needed on the opposite side of the roadway from the pipeline most likely will be obtained by the City as the adjoining lands are developed. The City expects that the roadway actually will be widened at the time the adjoining lands are developed. Because much of the adjoining land is designated for development before the year 2000, portions of Riggin could be widened within the next six years. The future Riggin right-of-way and pipeline alignments are displayed in Figure 2-3.

The City expects to finalize the future Riggin Avenue right-of-way alignment and the alignment of the trunk line in early to mid-1994 and, shortly thereafter, start the process of acquiring the right-of-way needed to install the line. The installation of the line is expected to start in the spring of 1995 and be completed before the end of 1995.

POTENTIAL SIGNIFICANT PROJECT IMPACTS AND MITIGATION MEASURES

There are four identified potentially significant impacts that are directly attributable to the implementation of the Master Plan: (1) The loss of agricultural land during the installation of recommended improvements; (2) Deterioration of air quality due to the generation of dust during construction; (3) Loss of habitat for sensitive species; and (4) Premature development of land. A brief discussion of each impact and the recommended mitigation measures is presented below.

Impact: Loss of Agricultural Land

If Master Plan improvements are installed outside of the existing street right-of-way in rural areas, as the Riggin trunk line will be, there potentially may be a loss of productive farm land, particularly during the actual installation of a line. It is estimated that approximately five acres of farmland will be lost per mile of pipeline when a line is installed through farm land. Therefore, if it is assumed that the three-mile Riggin line, the six-mile Avenue 276 line, and the four-mile Road 148 line will be installed through farm land (and the remaining lines will be installed within existing street rights-of-way), the Master Plan potentially will remove 65 acres of land from agricultural production.

It should be recognized, however, that when a line is installed through farm land, it may be possible to return the land to productive agricultural use after the line is installed, particularly if the effected land is planted in row crops. It also should be recognized that any farm land that will be effected by the installation of a trunk line eventually will be paved over because the lines will be installed within the planned right-of-way of a future roadway.

Mitigation: The City should, when practical, allow and encourage farmers to re-plant crops over the pipelines (following the installation of the line) and continue farming land (within the new right-of-way) until the roadway is widened.

Additionally, when possible, the City should attempt to minimize the disturbance of mature orchard trees and underground irrigation systems. In the event that any irrigation improvements are destroyed or damaged during the installation of the sewer line, the City should either replace the improvements or compensate the farmer for the cost of the improvements.

Residual Impact: With the recommended mitigation measures, the potential impact is reduced to a level of insignificance.

Impact: Generation of Dust During Construction

During the installation of Master Plan improvements, the clearing of the land along the pipeline alignment, the excavation and back-filling of the pipeline trench, and general grading activities may result in suspended dust particles, particularly under windy conditions. Dust generated during the installation of the lines may contribute to PM10 levels that exceed short-term standards established by the State Air Resources Board.

Mitigation: The City should implement the dust suppression measures recommended by the San Joaquin Valley Unified Air Pollution Control District (see Section 3.4.3).

Residual Impact: With the recommended mitigation measures, the potential impact is reduced to a level of insignificance.

Impact: Loss of Habitat for Sensitive Species

Because most of the Master Plan improvements will be installed in farm land or roadways, the Master Plan generally is not expected to have a significant direct impact on biological resources in the Visalia area. However, the impact of future projects will be evaluated on a project-by-project basis in subsequent studies.

With respect to the Shirk-Riggin project, because the City expects that the Shirk Avenue portion of the line will be installed in the roadway within the existing right-of-way, the installation should not have a significant adverse direct impact on plant or wildlife species in the construction area. Because, most of the Riggin line will be installed in farm land that is not considered viable habitat for sensitive species, the installation generally should not impact these species. However, the water storage basin on the north side of Riggin at Linwood potentially could serve as foraging or denning habitat for kit fox or other sensitive wildlife species. Therefore, the City intends to conduct a "pre-construction" survey (in accordance with Department of Fish and Game guidelines) of the southern portion of the basin to determine if it is actively used by sensitive species.

Mitigation: If it appears that future projects potentially will impact wildlife and plant species, mitigation measures will be identified in subsequent studies.

With respect to the Shirk-Riggin Project, if the results of the "pre-construction" survey of the water storage basin indicate that the basin provides sensitive species habitat that would be disturbed by the installation of the line, the City should consultant with the Department of Fish and Game to establish a plan for installing the line without adversely effecting the species.

Residual Impact: The potential impacts directly associated with the Master Plan will be reduced to a level of insignificance with the implementation of the recommended mitigation measures.

Impact: Premature Development of Land

Some Master Plan improvements potentially can result in pressures to prematurely develop lands within the service area of the improvements. Specifically, the Master Plan recommends installing the Avenue 276 trunk line prior to the year 2000 to serve lands along Caldwell east of Santa Fe that are designated for development during the first growth phase of the *2020 Plan* (1993-2000). However, lands south of the Avenue 276 alignment are designated for development after the year 2010, and there may be pressure to prematurely develop these lands after the line is installed. Furthermore, the south limit of the 2020 UDB is one-half mile south of the Avenue 276 alignment along Avenue 272 and pressures may arise to develop lands south of Avenue 272. Installation of the planned Riggin trunk line also may create pressures to prematurely develop lands.

As mentioned earlier, because the City has expressed an interest in maintaining the area south of Avenue 272 in agriculture as a buffer between Visalia and Tulare, the Avenue 276 line has been sized to serve only lands within the 2020 UDB.

Mitigation: The City should resist pressures to prematurely develop lands that can be served by installed Master Plan improvements by adhering to the growth phasing policies of the *2020 Plan*. Policy 6.2.2 states that new or expanded urban development between the 2020 UDB and the UAB should be discouraged because the intervening area is largely agricultural land that generally is not suited for urban uses. Policy 6.2.3 refers to the factors that were considered in establishing the 2000, 2010, and 2020 UDBs for the *2020 Plan*. Policy 6.2.3 also refers to compliance with a "buildout" criteria before development can occur outside of the 2010 and 2020 UDBs. This criteria is described in Appendix C of the *Land Use Element*. Policy 6.2.6 states that annexation of land outside of the current UDB may be permitted only if: a) the proposal is required for orderly and efficient land use planning within Visalia's planning area, and b) the land is designated consistent with the City's LUE Map.

As a means to delay the installation of the Avenue 276 line, the City should attempt to serve pre-2000 development in the area north of Caldwell and east of Santa Fe with an extension of the Caldwell line. As indicated in the Master Plan, it appears that a portion of the flows from the Early California Foods plant on Santa Fe can be diverted from the Caldwell line to the Walnut line, thereby allowing the Caldwell line to serve the area east of Santa Fe. Based on the flows reported in the Master Plan, approximately 300 to 400 acres of single-family residential development (east of Santa Fe) could be served by an extension of the Caldwell line if sewage from the Early California Foods plant was diverted to the Walnut line. It may be feasible to serve additional acreage east of Santa Fe with the Caldwell line if limited "bottlenecks" in the Walnut line (downstream of Santa Fe) were upgraded.

Residual Impact: With implementation of the recommended mitigation measures, the potential impact is reduced to a level of insignificance.

POTENTIAL SIGNIFICANT CUMULATIVE IMPACTS

The cumulative impacts attributable to the development of the planned land uses of the *2020 Plan* are described in the *Land Use Element Update EIR*. These *2020 Plan* impacts, which are considered "indirect" impacts of the Master Plan, are referenced in Section 3.0 of this document, as are the *LUE EIR* mitigation measures.

The *LUE EIR* indicates that with the implementation of the recommended mitigation measures, many of the *2020 Plan* cumulative impacts are reduced to a level of insignificance. The potential cumulative *2020 Plan* impacts that can not be mitigated to a level of insignificance are as follows:

- Loss of approximately 13,000 acres of farm land to the development of urban land uses.
- Creation of conflicts between agricultural activities and adjacent urban land uses.
- Increase in vehicle traffic and congestion.
- Generation of substantial levels of mobile source air pollutant emissions and a corresponding decrease in local air quality.
- Increase in ground water pumping that may contribute to a long-term overdraft condition.
- Loss of habitat for various wildlife species by urban development.
- Increase in ambient noise levels which may affect potentially sensitive land uses.

PROJECT ALTERNATIVES

There are two identified alternatives to the proposed project. Each of the alternatives involves the adoption and implementation of a 50-year master plan. These alternatives seek to avoid the environmental impacts associated with implementation of the proposed Master Plan by modifying the alignment or timing of specific improvement projects. A discussion of these alternatives, as well as a "no-project" alternative, is presented below.

Alternative No. 1

Alternative No. 1 consists of adopting and implementing a 50-year master plan that has the same improvements as the proposed project. However, the planned Riggin trunk line would be installed within the existing right-of-way and minimal additional right-of-way would be required by the City to install the line. The potential benefit of this approach is that the installation process would not result in the loss of agricultural land.

It should be recognized, however, that the City expects this farm land ultimately will to be converted to urban used as the planned land uses of the *2020 Plan* are developed and Riggin is widened. It should also be recognized that with this alternative both travel lanes in Riggin would have to be closed in order to accommodate the planned trenching and stockpiling operations (within the existing roadway easement/right-of-way), and the Tulare County Public Works Department typically does not allow both lanes of a major roadway to be closed. Therefore, this alternative is considered infeasible. It should be noted that with extensive shoring measures and stockpiling the excavated material either partially or entirely out of the existing right-of-way, it may be feasible to install the pipeline within the existing right-of-way and leave one travel lane open during the day (during the night both travel lanes would have to be open). However, the cost of this approach would be significantly higher than cost of the proposed installation method.

Otherwise, this alternative generally would be expected to have the same direct environmental impacts as the proposed project. With respect to "indirect" environmental impacts, the proposed project and Alternative No. 1 both will, to some degree, facilitate development of the planned land uses of the *2020 Plan*. Therefore, the potential significant cumulative impacts associated with implementation of the *2020 Plan* can be indirectly attributed to both the proposed project and the alternative project.

Alternative No. 2

Alternative No. 2 consists of adopting and implementing a 50-year master plan that has the same improvements as the proposed master plan with one exception. The alternative project would delay the installation of the planned Avenue 276 trunk line until the third growth period of the *2020 Plan* (2011-2020) by installing a new relief line in Whitendale between Akers and Santa Fe (prior to the year 2000). It should be noted that it appears that the Whitendale line cannot serve all of the area designated for development east of Road 148, which means that the Avenue 276 line (or an equivalent project) will be needed during the third growth period.

The benefit of the Whitendale line is that it would eliminate some of the pressure to prematurely develop land that potentially will exist if the Avenue 276 line is installed during the initial growth period of the *2020 Plan*. On the other hand, because the Whitendale line would be installed through an area that is fully developed, the construction will be significantly more disruptive than the installation of a new line in Avenue 276. Also, because existing improvements in Whitendale will have to be removed and replaced and extensive traffic control measures will have to be provided, the "cost per acre served" would be significantly higher for the Whitendale line than the Avenue 276 line.

"No Project" Alternative

With the "no project" alternative, the proposed Master Plan would not be adopted and the recommended improvements would not be constructed. Without a master plan, it is conceivable that the City would impose a moratorium on development after the limited unused capacity currently available in the existing trunk lines is utilized. However, a more likely scenario is that the improvements needed to serve future development would be planned and installed on a project-by-project basis, in much the same way that sewer improvement projects have been handled in the past.

As Visalia grows, the risks associated with future development without a city-wide comprehensive master plan increase. Trunk lines that are expected to serve future development through the year 2020, may be undersized to accommodate all of the flows that land uses will generate. Without a long-range capital improvement program that establishes the timing of improvements (to serve developing areas during each growth period), pressures to prematurely develop areas in close proximity to existing lines may occur. Furthermore, if long-range improvement projects are not identified (with cost estimates), it may be difficult for the City to establish a rate/fee schedule that will consistently fund the total cost of individual projects.

"Environmentally Superior" Alternative

Of the alternatives considered, the environmentally superior alternative is the "No Project" Alternative <u>with</u> a moratorium on development because the direct and indirect impacts associated with the implementation of the Master Plan would be largely eliminated.

Of the remaining alternatives, the direct impacts associated with the installation of improvements vary somewhat depending on whether the improvements are installed in rural areas or developed areas, within existing right-of-way, or through agricultural lands. The indirect and cumulative impacts associated with the remaining alternatives are comparable. However, based on the considerations mentioned above, the remaining alternatives are ranked for their environmental superiority as follows:

1) The proposed Master Plan.

2) The "No Project" Alternative <u>without</u> a development moratorium.

3) Alternative No. 2 - A master plan with a Whitendale relief line.

It should be noted that Alternative No. 1, a master plan with the Riggen line installed within the existing right-of-way, is considered infeasible with conventional trenching methods. With respect to the use of extensive shoring methods to install the line, the limited benefit that this alternative would provide does not outweigh the additional cost associated with the shoring.

1.0 INTRODUCTION

1.1 OVERVIEW

In September of 1991, the City of Visalia adopted an updated Land Use Element (LUE) to its General Plan. The updated *LUE* established development boundaries for the community (through the year 2020) and the distribution of residential, commercial, industrial, open space, and institutional uses within those boundaries. To ensure that development of the planned land uses is not restricted by infrastructure constraints, the *LUE* (also referred to as the *2020 Plan*) contains a specific policy pertaining to the preparation of a master plan for the City's sewer system. Policy 5.1.4 of the *LUE* states *"Prepare and implement a 50-year sanitary sewer master plan which implements adopted land use goals, objectives and policies and which stress oversizing to meet long-range demand."*

In response to this policy, the City has prepared a Sewer System Master Plan that identifies the improvements that will be needed to serve the planned land uses of the *2020 Plan*. The Master Plan presents a Capital Improvement Program that details the timing and costs of the improvements.

Pursuant to Section 15378 of the California Environmental Quality Act (CEQA) Guidelines, the adoption of such a master plan is defined as a "project" and it must meet the requirements of CEQA. To assess the potential significance of the proposed project, the City of Visalia, lead agency for the project, prepared an *Initial Study*. The findings of the *Initial Study* (see Appendix A) suggested that the project could have a significant adverse impact on the environment. Based on this finding, the City elected to prepare an EIR for the project.

1.2 RELATIONSHIP TO LAND USE ELEMENT EIR

An EIR (State Clearinghouse No. 90020160) was prepared for the adoption of the City's updated Land Use Element. The *LUE EIR* serves as a "master" or "program" EIR for future development projects in the Visalia area by providing an evaluation of the cumulative impacts associated with implementation of the *2020 Plan*. This allows environmental documents for subsequent related projects (such as implementation of the proposed Sewer Master Plan) to focus on environmental issues that were not addressed in the "master" EIR and reduce the need for further analysis of cumulative impacts.

The City has determined that the *LUE EIR* adequately evaluated the cumulative impacts (of the *2020 Plan*) that are indirectly associated with implementation of the Master Plan. However, the *LUE EIR* did not address the potential impacts that are directly attributable to the installation of the recommended Master Plan improvements. Therefore, the focus of this document is the direct impacts of the Master Plan. The *LUE EIR* evaluation of the cumulative impacts of the *2020 Plan* is incorporated herein by reference.

1.3 TIERED EIR

This EIR has been prepared as a "tiered" EIR, as permitted under Section 15152 of the CEQA Guidelines. The tiering concept promotes efficiency in the environmental assessment process by focusing review on the issues which are relevant to the project under consideration. This EIR, as the first "tier", provides a general evaluation of the impacts that are directly attributable to the installation of Master Plan improvements. It should be noted that this EIR also evaluates the "direct" impacts associated with one specific project that has been defined by the City.

Subsequent "second tier" environmental documents for future improvement projects (not defined at this time) will address project-specific issues that were not adequately addressed in this "first tier" document. There would be no need to repeat the discussion of issues that are adequately addressed in the "first tier" document.

1.4 SCOPE OF THE EIR

In December, 1992, the City of Visalia prepared and distributed a Notice of Preparation (NOP) for this EIR, inviting responsible agencies and other interested parties to comment upon the scope of the environmental analysis. Based on a subsequent modification to the Master Plan, the City issued an Addendum to the NOP in March, 1993. Copies of the initial NOP and the comments received by the City are presented in Appendix A. The NOP Addendum and related comments are presented in Appendix B.

Based on the findings of the NOP Initial Study and the NOP comments, the City determined that the Draft EIR should focus on the following environmental issues:

- Land Use
- Population and Housing
- Traffic/Circulation
- Air Quality
- Water Resources
- Biological Resources
- Noise
- Aesthetic/Visual Resources
- Public Services
- Cultural/Historical Resources

1.5 ORGANIZATION OF THE DRAFT EIR

Section 2.0 provides a detailed description of the proposed project. Section 3.0 presents a comprehensive description of the existing environmental setting in the project area, an evaluation of the potential environmental impacts of the project, and mitigation measures that are intended to minimize the significance of the identified adverse impacts. Section 4.0 contains a description of the project alternatives. Section 5.0 describes the consequences of project implementation, including significant effects which cannot be avoided, short-term versus long-term productivity, and effects related to the growth-accommodating aspect of the project.

1.6 INTENDED USE OF THE EIR

This EIR is intended to serve as the environmental document for the adoption and implementation of the proposed Sewer Master Plan. It is subject to review by four types of agencies: "lead agencies:, "responsible agencies", "trustee agencies", and "review agencies".

Lead Agency

The City of Visalia, which has the responsibility for adopting and implementing the proposed Master Plan, is the "lead agency" for the project. As the "lead agency", the City is responsible for the CEQA public review process.

Responsible Agencies

The *CEQA Guidelines* define "responsible agencies" as agencies having discretionary permitting authority or approval power over a project. There are no identified "responsible agencies" for the proposed project.

Trustee Agencies

"Trustee Agencies" are the State agencies that have jurisdiction over natural resources that are affected by the project. They may recommend denial of aspects of the project that adversely impact their areas of interest. The State Department of Fish and Game is a "trustee agency".

Reviewing Agencies

"Reviewing agencies" include local and State agencies that have jurisdiction over resources that may be affected by the project. The following agencies are considered "reviewing agencies":

- San Joaquin Valley Unified Air Pollution Control District
- Tulare County Planning and Development Department
- Tulare County Public Works Department

1.7 PUBLIC REVIEW OF THE DRAFT EIR

This Draft EIR will be circulated to local agencies and State agencies (through the State Clearinghouse) for a period of 45 days. Copies of the Draft EIR will be available for public review and comment during the review period at the following locations:

City of Visalia (Public Works Department)
707 W. Acequia
Visalia, CA 93291

Tulare County Library (Visalia Branch)
202 W. Oak Street
Visalia, CA 93291

A public hearing for the purpose of receiving comments on the Draft EIR will be conducted by the City. The date, time, and location of the public hearing will be published in the Visalia Times-Delta.

2.0 PROJECT DESCRIPTION

2.1 OVERVIEW

The City of Visalia is proposing to adopt and implement a 50-year sewer system master plan that identifies the improvements needed to serve the planned land uses of the City's *2020 Plan*, as well as future development outside the 2020 UDB (see Figure 2-1).

2.2 LOCATION AND ENVIRONMENTAL SETTING

The City of Visalia is located in the northwestern portion of Tulare County near the western foothills of the Sierra Nevada Mountains. Tulare County is situated in the south San Joaquin Valley, immediately south of Fresno County and north of Kern County. State Route 99, passing at the western edge of the City, and State Route 198 are the major access routes to Visalia.

Situated on an alluvial fan created by deposits from the Sierra Nevada Mountains, Visalia is traversed by a number of distributary channels from the Kaweah River system. The combination of rich alluvial soils, favorable climate and the availability of irrigation water have made much of Tulare County, and the Visalia area in particular, a productive agricultural area. Almost all the undeveloped land surrounding the City is in agricultural production.

2.3 PROJECT OBJECTIVES

Prior to the 1991 update of the Visalia Land Use Element, a comprehensive master plan had never been prepared for the City's sewer system. Nevertheless, the City generally has been able to serve developing areas without incurring significant capacity problems.

However, the updated LUE expanded the City's development boundaries and designated more than 15,000 acres of undeveloped land for future urban uses. In compliance with the policies of the LUE, the City commissioned the preparation of a 50-year sewer system master plan to establish a framework for expanding the existing system to serve the planned land uses of the *2020 Plan*, as well as areas outside of the 2020 UDB that are expected to develop after the year 2020.

2.4 EXISTING SEWER SYSTEM

Visalia's existing sewer collection system consists of 260 miles of lines that varying in size from 6 inches to 48 inches. The system is divided into eight services areas that are served by the following trunk lines:

1) Caldwell Avenue trunk line: serves areas along Caldwell between Akers Road and Santa Fe;

2) Walnut Avenue-Lovers Lane trunk line: serves areas along Walnut between Roeben Road and McAuliff Road and areas east of Lovers Lane between Walnut and the St. Johns River;

3) Tulare Avenue trunk line: serves areas along Tulare between Akers Road and Ben Maddox Way;

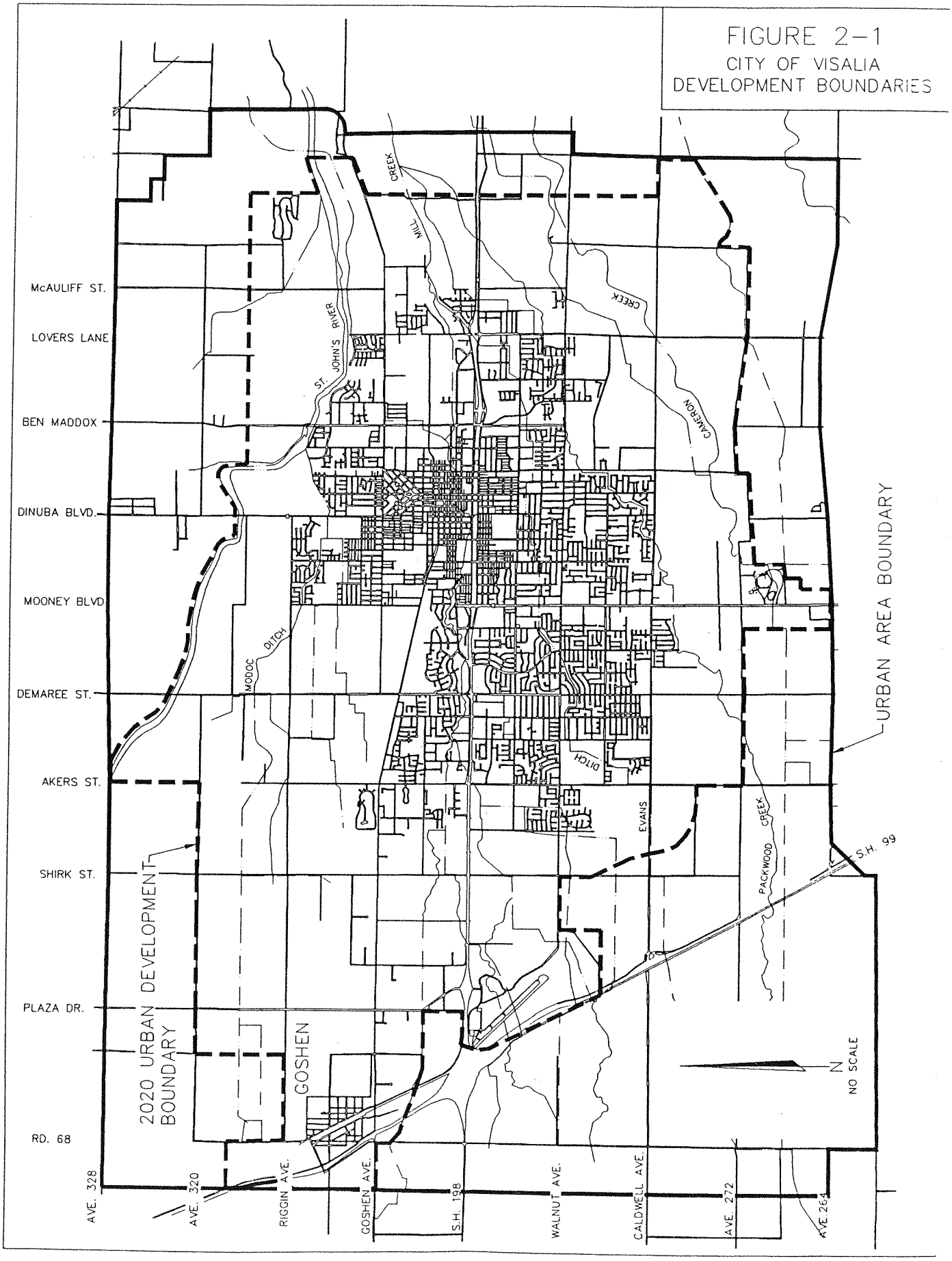


FIGURE 2-1
CITY OF VISALIA
DEVELOPMENT BOUNDARIES

4) Mineral King Avenue trunk line: serves areas north of Mineral King between Mooney Boulevard and Lovers Lane, and the area north of Houston between Santa Fe and Lovers Lane;

5) Ranch Road-Houston Avenue trunk line: serves the area between Demaree Road and Mooney north of State Route 198 and the area north of Houston Avenue between Mooney and Santa Fe;

6) Akers-Houston trunk line: serves the area between Roeben Road and Demaree north of S.R. 198, and the area between Dinuba Boulevard and Mooney north of Ferguson and the area west of Mooney and north of Houston;

7) Road 84 trunk line: serves industrial areas along Road 84 south of Goshen Avenue, including the Visalia Municipal Airport; and

8) Road 76-Sunnyview trunk line: serves industrial areas north of Goshen between Shirk and Road 76, and along Road 76 between Goshen and S.R. 198.

The lines connect to one of the two parallel outfall lines in Walnut Avenue that extend to the City's wastewater treatment plant west of S.R. 99. The wastewater treatment plant currently receives am average flow of 9 to 10 million gallons per day (mgd). The largest single contributors of flows in Visalia generally are food processing facilities, schools, and hospitals.

For the purpose of evaluating the existing sewer system, the Master Plan consultant metered the flow at selected locations. Based on the findings of the metering program, average daily flow generation rates were established for existing residential, commercial, industrial, and institutional uses in the community. "Peaking factors" for the existing uses also were established from the flow measurements.

Using the flow generation rates and "peaking factors" that were established for the existing land uses, a computer simulation model of the existing sewer system was developed. The model computed the flows that the existing uses generate and routed the flows through the collection system to the treatment plant. The flow generation rates were "fine-tuned" until the computed flows at the plant matched the actual measured plant flows. The calibrated average flow generation rate for residential uses is equivalent to 90 gallons per capita per day.

Based on the model's computed flows, the Master Plan indicated that the existing system generally was well-planned and had relatively few capacity deficiencies. The proposed improvements that are needed to correct existing deficiencies in the eight established service areas are summarized as follows:

Service Area (trunk line)	Improvements
1) Caldwell line	No deficiencies, no improvements needed.
2) Walnut-Lovers Lane line	Replacement of 1,085 feet of existing 8-inch pipe with 12-inch pipe, replacement of 1,680 feet of existing 12-inch pipe with 15-inch pipe, and upgrade of a lift station.

3) Tulare line	No deficiencies, no improvements needed.
4) Mineral King line	Replacement of 7,300 feet of existing 30-inch pipe with 33-inch pipe.
5) Ranch Road-Houston line	Upgrading of a lift station.
6) Akers-Houston line	Upgrading of two lift stations.
7) Road 84 line	No deficiencies, no improvements needed.
8) Road 76-Sunnyview line	Upgrading of a lift station.

2.5 EVALUATION OF PLANNED LAND USES

Using the flow generation rates that were established for the existing land uses in Visalia, the flows that will be generated by the planned land uses within the City's 2020 Urban Development Boundary (UDB) were estimated. For the purpose of routing these flows, four new service areas were established. The new service areas are described as follows:

Service Area 9: Includes the area along the Avenue 276 alignment between Akers and Road 148, the area along Caldwell between Santa Fe and Road 148, and the area east of Road 148 between Avenue 276 and the St. Johns River.

Service Area 10: Includes the area along Shirk Road between Walnut and Goshen Avenue and the area along Riggin between Shirk and Road 152.

Service Area 11: Includes the area along Avenue 320 between Shirk and Road 152.

Service Area 12: Includes the area north of Riggin between Avenue 68 and Shirk.

2.6 PROPOSED MASTER PLAN IMPROVEMENTS

The Master Plan improvements that are recommended to serve "pre-2020" development and "post-2020" development are described below.

Pre-2020 Development

Based on the estimated flows that the planned land uses will generate, the improvements that will be needed to serve future development through the year 2020 were identified (see Figure 2-2). The major improvements in each service area (and the timing of the improvements) are summarized below. With the exception of Service Area 8, no major improvements are recommended for the existing eight service areas because these service areas will not be expanded to serve future planned development. The improvements for Service Area 8 include the lines and lift stations that will be needed to serve the community of Goshen in the event that Goshen is annexed to the City.

ROAD 68 | ROAD 76 | ROAD 84 | SHIRK | AKERS | DEWARRE | HOOVEY | DINUBA | BEN MADDOX | LOVERS LANE | MCCLELLIFF | ROAD 148 | ROAD 156

AVE 320

RIGGIN AVE

GOSHEN AVE

SH 198

WALNUT AVE

CALDWELL AVE

AVE 272

AVE 264

URBAN GROWTH BOUNDARY

URBAN AREA BOUNDARY

FIGURE 2-2

Legend

- PROPOSED PIPE SIZE AND SLOPE (15" @ 0.00140)
- EXISTING PIPE SIZE (IN) (36")
- EXISTING PIPE
- 1993-2000 IMPROVEMENT
- 2000-2010 IMPROVEMENT
- 2010-2020 IMPROVEMENT
- POST-2020 DEVELOPMENT
- PROPOSED UPGRADE OF EXISTING LIFT STATION
- PROPOSED LIFT STATION
- CONNECTION TO EXISTING PIPE

City Of Visalia

BOYLE ENGINEERING CORPORATION

SANITARY SEWER MASTER PLAN

PROPOSED EXPANSION IMPROVEMENTS

Service Area/Growth Period	Improvements
1) Caldwell line	No major improvements identified.
2) Walnut-Lovers Lane line	No major improvements identified.
3) Tulare line	No major improvements identified.
4) Mineral King line	No major improvements identified.
5) Ranch Road-Houston line	No major improvements identified.
6) Akers-Houston line	No major improvements identified.
7) Road 84 line	No major improvements identified.
8) Road 76-Sunnyview line	
1993 to 2000:	8,800 feet of 12 to 24-inch pipe to serve the area along Road 80/Plaza Drive between S.R. 198 and Goshen Avenue. 15,500 feet of 18 to 24-inch pipe and upgrading the lift station at Goshen Avenue and Camp Drive to serve the community of Goshen. Upgrading the lift station northwest of the Airport to serve the community of Goshen and other development in Service Areas 8 and 10.
2001 to 2010:	Upgrading the lift station northwest of the Airport to serve development in the northwest industrial area.
2011 to 2020:	No major improvements recommended.
9) Avenue 276-Road 148 line	
1993 to 2000:	Approximately 2,600 feet of 36-inch pipe in Akers south of Caldwell (with a connection to the Caldwell line), 18,500 feet of 33-inch pipe in Avenue 276 (to Santa Fe), 2,600 feet of 21-inch pipe in Santa Fe (between Avenue 276 and Caldwell) and 2,600 feet of 18-inch pipe in Caldwell (east of Santa Fe) to serve the area north of Caldwell between Santa Fe and Lovers Lane.
2001 to 2010:	Approximately 13,300 feet of 33 to 27-inch pipe in Avenue 276 (to Road 148) and 5,300 feet of 18-inch pipe in Lovers Lane to serve the area north of Avenue 272 between Santa Fe and Road 148 and the area north of Caldwell between Lovers Land and Road 148.

2011 to 2020: Approximately 21,200 feet of 27 to 18-inch pipe in Road 148 to serve the area east of Road 148 between Avenue 272 and Houston Avenue.

10) Shirk-Riggin Line:

1993 to 2000: Approximately 1,800 feet of 48-inch pipe in Shirk (with a connection to the existing Sunnyview line) and 23,900 feet of 30 to 21-inch pipe in Riggin (to Santa Fe) to serve the area along Riggin between Shirk and Santa Fe.

2001 to 2010: No major improvements recommended.

2011 to 2020: Approximately 13,300 feet of 48-inch pipe in Shirk (between Sunnyview and Walnut) and 13,300 feet of 21-inch pipe in Riggin (east of Santa Fe) to serve the area along Riggin between Santa Fe and Road 152.

11) Avenue 320 line:

1993 to 2000: No improvements needed.

2001 to 2010: No improvements needed.

2011 to 2020: Approximately 5,300 feet of 36-inch pipe in Shirk (with a connection to the Shirk-Riggin line) and 10,600 feet of 33-inch pipe in Avenue 320 (east of Shirk) to serve the area along Avenue 320 between Shirk and Mooney.

12) Road 76 line:

1993 to 2000: No improvements needed.

2001 to 2010: Approximately 7,900 feet of 33 to 27-inch pipe in Road 76 north of Sunnyview (with a connection to the existing Road 76 line at Sunnyview) and 5,300 feet of 18-inch pipe in Riggin (east of Road 76) to serve the area north of Riggin between Road 76 and Road 84.

2011 to 2020: Approximately 7,000 feet of 15-inch pipe in Riggin (east of Road 84) and Road 84 (north of Riggin) to serve the area east of Road 84.

Post-2020 Development

Because the *2020 Plan* policies encourage the preparation of a long-range, 50-year sewer master plan, the new service areas include lands that are between the 2020 UDB and the 2020 Urban Area Boundary (UAB). Therefore, some of the trunk lines identified above have been sized to serve the planned 2020 land uses as well as areas that are expected to develop after the year 2020. This

approach to sizing trunk lines was considered cost-effective long-range planning because the cost of "up-sizing" the pipe is relatively small when compared to the cost of installing new parallel or replacement lines in the future (to serve lands outside the 2020 UDB). However, as discussed in Section 3.2 of this document, this "up-sizing" of the lines to accommodate flows from areas outside the 2020 UDB potentially is "growth inducing" because it may result in pressures to prematurely develop lands outside of the 2020 UDB.

The planned post-2020 improvements tentatively include an extension of the planned Avenue 320 line east of Demaree to Road 148; and an extension of lines (that connect to the planned Road 148 line) to serve lands east of Road 152. For the purpose of sizing these post-2020 improvements (and the "downstream" pre-2020 trunk lines), it was assumed that the lands served will be developed with a combination of land uses; 70 percent residential, 20 percent commercial, and 10 percent open space. The planned post-2020 improvements also include lines in the northwest industrial area.

It should be noted that for the purpose of preparing the Master Plan, it was assumed that the area between the 2020 UDB and UAB south of Avenue 272 will not be developed with urban uses prior to the year 2040 because the City has expressed an interest in maintaining this area in agriculture as a buffer between Visalia and Tulare. Therefore, in an effort to reduce the potential for pressure to prematurely develop lands south of Avenue 272, the Avenue 276 line has been sized to serve only lands within the 2020 UDB. In the event that the area south of Avenue 272 develops in the future (after the planned Avenue 276 line has been installed), it is likely that a new trunk line will have to be installed to serve it. However, as recognized in the Master Plan, should the City's policy on development south of Avenue 272 change prior to the installation of the Avenue 276 line, this line could be used to serve future development south of Avenue 272 in accordance with the recommendations of the *2020 Plan*. In that event, the alignment and diameter of the line may be subject to change.

With respect to the future demand to develop lands outside of the 2020 UDB, it should be noted that the 2020 UDB includes a 30 percent "vacancy" factor for single-family residential uses. Therefore, when the city's population reaches the projected 2020 population of 165,000, there will be enough undeveloped land designated for residential uses within the 2020 UDB to accommodate an additional 24,000 people (based on a current population of 86,000).

2.7 PRE-2000 IMPROVEMENT PROJECTS

The City plans to install (prior to the year 2000) the two major trunk lines that the Master Plan indicates will be needed to serve development during the initial growth period (1993-2000) of the *2020 Plan*. The two trunk lines are the Shirk-Riggin line that will serve Service Area 10 and the Avenue 276 line that will serve Service Area 9.

The Shirk-Riggin line will be installed first and the City has prepared preliminary plans for this project. A description of the Shirk-Riggin line project is given below. Although plans for the Avenue 276 line are not available at this time, a cursory discussion of this project follows the discussion of the Shirk-Riggin line. Plans for the Avenue 276 line and other Master Plan improvements will be prepared in the future.

Shirk-Riggin Trunk Line

Overview

The initial phase of the Shirk-Riggin line will connect to an existing 30-inch line in Sunnyview that currently terminates at Shirk, extend north approximately 1,800 feet to Riggin, where it will turn east and extend three miles to Mooney Boulevard. This initial phase of the line, which will range in diameter from 4 inches in Shirk to 27 inches at Mooney, will serve the area north and south of Riggin between Shirk and Mooney that is designated for development during the first growth period of the *2020 Plan* (1993-2000). It should be noted that land along Riggin east of Mooney also is designated for development during the first growth period. This area will be served by future extensions of the Riggin line, installed either by the City or developers.

On Shirk Road, the City tentatively plans to install the new line within the existing right-of-way. The City expects that it will be necessary to close at least one lane of Shirk to through traffic during the installation of the line, which should take approximately four weeks. For the 1,200 foot segment of Shirk that is outside of the City Limits, the City will obtain an encroachment permit from Tulare County and comply with applicable County requirements.

On Riggin Avenue, the City generally plans to install the line outside of the paved section of the roadway to avoid disrupting the traffic flow on Riggin. However, the existing public road easement, which typically is 40 feet wide, does not provide enough room outside of the paved section to accommodate the pipeline installation operation. The installation operation will require a working area approximately 40 to 50 feet wide in order to dig a trench up to 20 feet deep and stockpile the excavated material. Based on this need, the City intends to acquire additional right-of-way (on one side of the roadway) to install the pipeline. It should be noted that Riggin generally was constructed within a public easement that was granted to Tulare County. One notable exception is the property east of Akers along the north side of Riggin, where the owner dedicated the easement as right-of-way to the County.

The City expects that Riggin eventually will be improved to a four-lane, divided roadway within a 110-foot right-of-way. Because the City wants to have the sewer line within the paved section of the future roadway, it was necessary for the City to establish a preliminary alignment for the future Riggin Avenue right-of-way before the alignment of the sewer line could be developed.

For the purpose of installing the sewer line, the City will acquire the additional right-of-way needed for the future widening of Riggin Avenue (on the side of the roadway that the pipeline will be installed). The additional right-of-way that is needed on the opposite side of the roadway from the pipeline most likely will be obtained by the City as the adjoining lands are developed. The City expects that the roadway actually will be widened at the time the adjoining lands are developed. Because much of the adjoining land is designated for development before the year 2000, portions of Riggin could be widened within the next six years.

The future right-of-way alignment for Riggin and the planned alignment of the sewer line are described below. The future right-of-way and pipeline alignments are displayed in Figure 2-3.

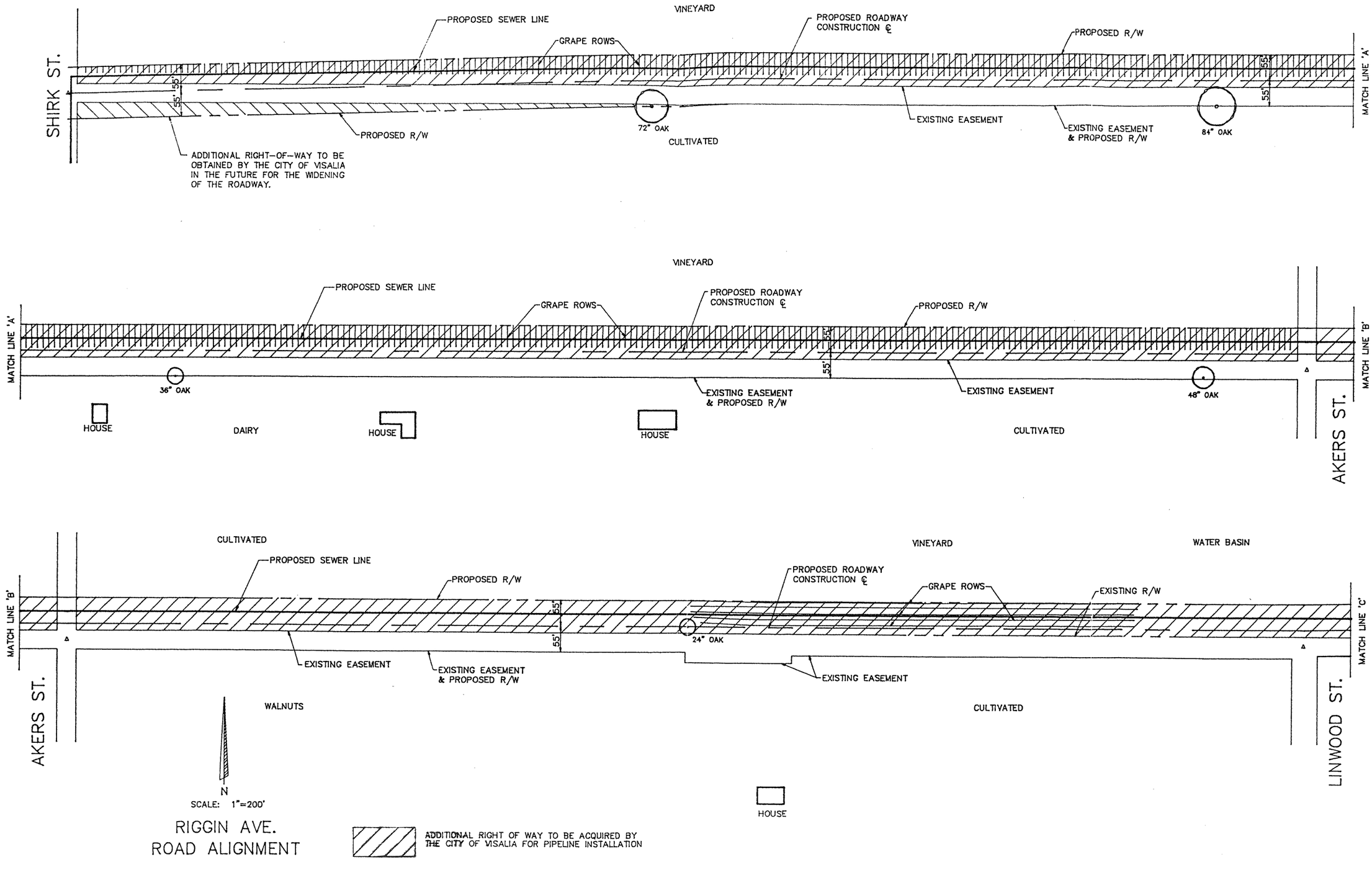

SHIRK ST.
VINEYARD
PROPOSED SEWER LINE
GRAPE ROWS
PROPOSED ROADWAY CONSTRUCTION ℄
PROPOSED R/W
55'
55'
PROPOSED R/W
ADDITIONAL RIGHT-OF-WAY TO BE OBTAINED BY THE CITY OF VISALIA IN THE FUTURE FOR THE WIDENING OF THE ROADWAY.
72" OAK
CULTIVATED
EXISTING EASEMENT
EXISTING EASEMENT & PROPOSED R/W
84" OAK
55'
55'
MATCH LINE 'A'
MATCH LINE 'A'
VINEYARD
PROPOSED SEWER LINE
GRAPE ROWS
PROPOSED ROADWAY CONSTRUCTION ℄
PROPOSED R/W
55'
55'
36" OAK
EXISTING EASEMENT & PROPOSED R/W
EXISTING EASEMENT
48" OAK
MATCH LINE 'B'
HOUSE
DAIRY
HOUSE
HOUSE
CULTIVATED
AKERS ST.
CULTIVATED
VINEYARD
WATER BASIN
MATCH LINE 'B'
PROPOSED SEWER LINE
PROPOSED R/W
PROPOSED ROADWAY CONSTRUCTION ℄
GRAPE ROWS
EXISTING R/W
55'
55'
24" OAK
MATCH LINE 'C'
EXISTING EASEMENT
EXISTING EASEMENT & PROPOSED R/W
EXISTING EASEMENT
AKERS ST.
WALNUTS
CULTIVATED
LINWOOD ST.
N
SCALE: 1"=200'
HOUSE
RIGGIN AVE.
ROAD ALIGNMENT
ADDITIONAL RIGHT OF WAY TO BE ACQUIRED BY THE CITY OF VISALIA FOR PIPELINE INSTALLATION

FIGURE 2-3(a)

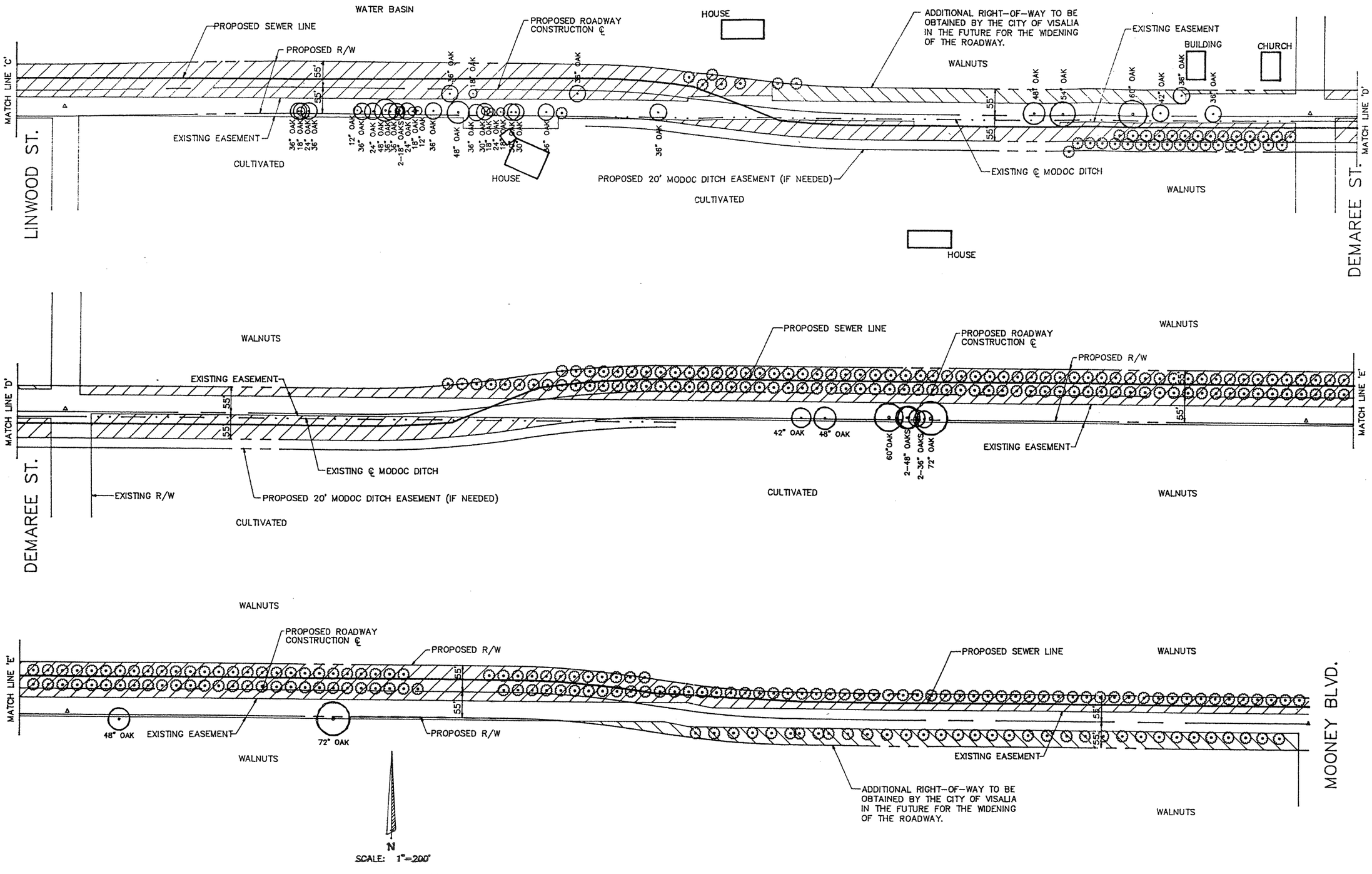

WATER BASIN
PROPOSED SEWER LINE
PROPOSED R/W
PROPOSED ROADWAY CONSTRUCTION ℄
HOUSE
ADDITIONAL RIGHT-OF-WAY TO BE OBTAINED BY THE CITY OF VISALIA IN THE FUTURE FOR THE WIDENING OF THE ROADWAY.
EXISTING EASEMENT
BUILDING
CHURCH
WALNUTS
MATCH LINE 'C'
LINWOOD ST.
EXISTING EASEMENT
CULTIVATED
HOUSE
PROPOSED 20' MODOC DITCH EASEMENT (IF NEEDED)
EXISTING ℄ MODOC DITCH
WALNUTS
DEMAREE ST.
MATCH LINE 'D'
HOUSE
WALNUTS
EXISTING EASEMENT
PROPOSED SEWER LINE
PROPOSED ROADWAY CONSTRUCTION ℄
PROPOSED R/W
WALNUTS
MATCH LINE 'D'
EXISTING EASEMENT
EXISTING ℄ MODOC DITCH
42" OAK
48" OAK
60" OAK
2-48" OAKS
2-36" OAKS
72" OAK
CULTIVATED
WALNUTS
DEMAREE ST.
EXISTING R/W
PROPOSED 20' MODOC DITCH EASEMENT (IF NEEDED)
CULTIVATED
WALNUTS
PROPOSED ROADWAY CONSTRUCTION ℄
PROPOSED R/W
PROPOSED SEWER LINE
WALNUTS
MATCH LINE 'E'
48" OAK
EXISTING EASEMENT
72" OAK
PROPOSED R/W
WALNUTS
EXISTING EASEMENT
ADDITIONAL RIGHT-OF-WAY TO BE OBTAINED BY THE CITY OF VISALIA IN THE FUTURE FOR THE WIDENING OF THE ROADWAY.
WALNUTS
MOONEY BLVD.
N
SCALE: 1"=200'
RIGGIN AVE.
ROAD ALIGNMENT
ADDITIONAL RIGHT OF WAY TO BE ACQUIRED BY THE CITY OF VISALIA FOR PIPELINE INSTALLATION

FIGURE 2-3(b)

Future Riggin Right-of-Way Alignment

The City's preliminary alignment of the future Riggin Avenue right-of-way calls for the future centerline to coincide with the centerline of the existing road easement at Shirk, and the acquisition of 35 feet of additional right-of-way from each side of the roadway. East of Shirk, the future centerline angles north of the existing centerline until, at a point approximately 1,400 feet east of Shirk, the south line of the future right-of-way coincides with the south line of the existing easement (and the future centerline is 35 feet north of the existing centerline). At that point, 70 feet of additional right-of-way will be needed from the north side of the roadway, while no additional right-of-way will be needed from the south side.

This future right-of-way alignment, i.e. with the future center line shifted 35 feet north of the existing centerline and approximately 70 feet of additional right-of-way coming off the north side of Riggin, is continued east to Akers Road. Most of the frontage along the north side of Riggin (between Shirk and Akers) is planted in grapes. Based on the City's preliminary alignment plan for the future Riggin right-of-way, it appears that approximately 50 feet of the grapes vines, which are planted perpendicular to the roadway, are within the future right-of-way. The land along the south side of Riggin immediately east of Shirk is planted in row crops.

It should be noted that by shifting the future right-of-way centerline 35-feet north of the existing centerline, it appears that the four valley oak trees along the south side of Riggin (between Shirk and Akers) will be outside of the future curb line and may not have to be removed when Riggin is widened. In addition, this alignment will not require additional right-of-way from the frontage of four residences on the south side of Riggin (between Shirk and Akers). There are no residences on the north side of Riggin between Shirk and Akers.

The right-of-way alignment on the west side of Akers, i.e. with the future centerline shifted 35 feet north of the existing centerline and no additional right-of-way needed from the south side, is maintained between Akers and Linwood. With this alignment, a single oak tree along the north side of Riggin may be within the future median and not have to be removed when the roadway is widened. In the event the oak tree cannot be incorporated into the median, it will have to be removed when the roadway is widened. Most of the frontage along the north side of Riggin is planted in row crops and grapes. The grape rows are planted parallel to the roadway and it appears that five of the rows are within the future right-of-way. A groundwater well and pump on the north side of Riggin approximately 300 feet west of Linwood are located within the future right-of-way.

Beginning at Linwood, the future right-of-way centerline angles slightly north of the existing centerline. At a point approximately 500 feet east of Linwood, the future right-of-way centerline will be approximately 44 feet north of the existing centerline and the south line of the future right-of-way will be approximately nine feet north of the south line of the existing right-of-way. The right-of-way alignment then angles slightly south for a distance of approximately 700 feet. At that point the future centerline is approximately 40 feet north of the existing centerline and the south line of the future

right-of-way will be approximately five feet north of the existing south easement line. Therefore, no additional right-of-way will be needed from the south side of Riggin for a distance of approximately 1,200 feet east of Linwood.

The alignment of the future roadway has been offset to the north of the existing easement in an effort to avoid the clusters of approximately 25 mature valley oak trees along the south side of Riggin. It appears that virtually all of these trees will be outside of the future curb line and may not have to be removed when the roadway is widened. Three oak trees on the north side of the roadway may be in the future median of the roadway and not have to be removed when Riggin is widened. If these trees are not within the median, they will have to be removed when the roadway is widened. The additional right-of-way that will be needed on the north side of Riggin (for a distance of 1,200 feet east of Linwood) will be obtained from a parcel that currently is used as a water storage basin. It appears that most of the south bank of the depressed basin is within future right-of-way.

At a point approximately 1,200 feet east of Linwood, the future centerline begins curving south (with a large radius) until it is approximately five feet south of the existing centerline at a point approximately 900 feet west of Demaree. At that point, approximately 40 feet of additional right-of-way will be needed on the south side of the roadway and 30 feet will be needed on the north side. Within the curved section of the future right-of-way alignment, one isolated oak tree on the south side of Riggin will have to be removed when the roadway is widened. In the middle of the curved section, a residence on the north side of Riggin will lose approximately 40 feet of setback with the future roadway alignment. The residence is set back approximately 75 feet from the north line of the future right-of-way. The frontage along the south side of Riggin (within the limits of the curved section of the alignment) is planted in row crops.

The future alignment continues east with the future centerline shifted approximately five feet north of the existing center line to Demaree Road. The future right-of-way centerline was shifted south of the existing centerline in order to avoid the historic church building at the northwest corner of Riggin and Demaree when the roadway eventually is widened. It should be noted that the existing easement on the north side of Riggin along the church parcel is 42 feet wide (measured from the easement centerline). This means that only eight feet of additional right-of-way will be needed from this parcel when the roadway is widened.

The frontage along the south side of Riggin (west of Demaree) is planted in row crops and mature walnut trees. The City's preliminary alignment for the future Riggin right-of-way indicates that two rows of walnut trees are within the proposed future Riggin right-of-way. There are five oak trees along the south side of Riggin west of Demaree that may be within the future median of the roadway. However, if these trees are not within the median, they will have to be removed when the roadway is widened. It is likely that a single oak tree on the north side of Riggin near the church will have to be removed when the roadway is widened. The frontage along the north side of Riggin (west of Demaree) is planted in mature walnut trees and it appears that one row of trees is within the future Riggin right-of-way.

East of Demaree, the alignment with the future centerline five feet south of the existing centerline (with 30 feet of additional right-of-way needed from the north side of Riggin and 40 feet from the south side) is continued for a distance of approximately 600 feet. The land on the north side of Riggin east of Demaree (within the limits of this alignment) is planted in row crops while the south side is planted in walnut trees. However, it appears that none of these trees are within the proposed future Riggin Avenue right-of-way.

At a point 600 feet east of Demaree, the future centerline begins curving north (with a large radius) until it is approximately 40 feet north of the existing centerline and the south line of the future right-of-way corridor is five feet north of the existing south right-of-way line. With this alignment, approximately 75 feet of additional right-of-way will be needed on the north side of the roadway and no additional right-of-way will be needed to the south. The alignment of the future right-of-way was shifted to the north in order to avoid the cluster of eight oak trees along the south side of the roadway (approximately 1,700 feet east of Demaree). Based on the City's preliminary future right-of-way alignment plan, it appears that all of these trees may be outside of the future curb line and not have to be removed when the roadway is widened.

The alignment with the future centerline shifted forty feet north of the existing centerline is continued east to a point approximately 1,700 feet west of Mooney Boulevard. It appears that with this alignment, two isolated oak trees along the south side of the roadway (approximately 2,100 feet and 2,500 feet west of Mooney) may be outside of the future curb line and not have to be removed when the roadway is widened. The land on the north side of Riggin (within the limits of this shifted section of future right-of-way alignment) is planted in walnut trees while the south side is planted in row crops. It appears that two rows of the trees are within the proposed future Riggin right-of-way.

At a point approximately 1,700 feet west of Mooney Boulevard the future centerline begins curving south until it coincides with the existing easement centerline and 35 feet of additional right-of-way is needed from both the north and south sides of the street for the future widening of Riggin. This alignment continues east to Mooney, where the planned future right-of-way centerline on the west side of Mooney matches the established right-of-way centerline. It appears that one row of trees is within the future right-of-way on both the north and south sides of Riggin.

It should be noted that the City expects that additional environmental review may be required prior to the widening of Riggin. The additional review would occur after the preliminary construction plans for the widening of the roadway have been developed.

Pipeline Alignment

The City's proposed alignment for the planned Shirk-Riggin sewer line was established based on several considerations. These considerations included having the pipeline within the future paved section of Riggin when the roadway is widened, minimizing disruptions to traffic during construction, and having adequate area to accommodate the trenching and stockpiling of dirt and pipe materials during the installation operation.

The new sewer line will commence at an existing stub in Shirk north of Sunnyview and proceed north to Riggin within the existing paved section of Shirk. For the portion of Shirk that is within the City Limits, the City expects that both lanes will be closed during the installation of the pipeline. For the portion of Shirk that is outside the City Limits, the City expects to close one lane and route traffic around the construction area during the installation of the line.

At Riggin, the pipeline will extend approximately 55 feet north of the existing Riggin centerline and then proceed east within the future alignment of Riggin. The City intends to cross Riggin by either boring under the existing roadway or open trenching one lane at a time. With the trenching alternative, the pavement would be cut, a trench excavated, the pipeline installed, the trench backfilled, and the pavement patched across one lane within a day while the traffic was routed around the construction area.

Between Shirk and Linwood, the pipeline generally will be approximately 40 feet north of the existing north right-of-way line and 30 feet south of the future north right-of-way line. This distance from the existing north right-of-way line is necessary to provide adequate clearance for the installation equipment and materials from the power lines located along the right-of-way line.

Between Shirk and Akers, the pipeline will cross through the grape vines that are planted perpendicular to the roadway. It appears that the southerly 40 to 50 feet of the vines will have to be removed to install the pipeline. The City intends to install the line across Akers by either boring under the existing roadway or open trenching one lane at a time, as discussed earlier.

Between Akers and Linwood, the pipeline will cross through approximately 1,300 feet of row crops and 950 feet of a vineyard with its grape rows planted parallel to the roadway. It appears that three to four of the grape rows will have to be removed to install the line. It is likely that the existing groundwater well on the north side of Riggin west of Linwood will be damaged during the installation of the line. Therefore, it probably will be necessary to remove the pump and cap the well during the installation operation.

At Linwood, the line will be installed in or near the southern bank of the depressed water storage basin. Approximately 1,400 feet east of Linwood, the future right-of-way centerline shifts south of the existing centerline and the pipeline crosses from the north side of roadway to the south side. To insure that the flow of traffic is not disrupted on Riggin, the City intends to install the line across Riggin by either boring under the existing roadway or open trenching one lane at a time, as discussed earlier. At the crossing of Riggin, the pipeline also crosses a branch of Modoc Ditch along the south side of the existing roadway right-of-way. If the channel is "dry" at the time of the ditch crossing, the City plans to open trench across the channel and reconstruct the channel after the line has been installed. If the channel is carrying irrigation water or flood control releases, the City plans to bore under the channel.

After the pipeline crosses Riggin, it proceeds east to Demaree approximately 40 feet south of the existing south right-of-way line. On this alignment, the sewer line runs along the northern edge of fields planted in row crops and a

walnut orchard, approximately 45 feet south of a branch of Modoc Ditch. For the purpose of installing the line, it appears that only one row of the walnut trees will have to be removed. To cross Demaree with the sewer line, the City intends to bore under the existing roadway.

For a distance of 700 feet east of Demaree, the pipeline will be approximately 20 feet south of the south line of the existing right-of-way. On this alignment, the line is in a non-cultivated area between a branch of Modoc Ditch and the northern edge of a field planted in row crops. It should be noted that the City intends to install the portion of the pipeline that is near the branch Modoc Ditch (along the south side of Riggin) in the late summer or fall when the ditch typically is "dry". This will allow the City to fill the channel with excavated material during the trenching process and clean out the channel after the pipeline has been installed. If necessary, the City would purchase a 20 foot wide "working" easement south of the future Riggin right-of-way and temporarily relocate the ditch during the installation process. The City will coordinate all work involving the channel with Modoc Ditch company.

Approximately 850 feet east of Demaree, the future right-of-way centerline shifts north of the existing centerline and the pipeline crosses from the south side of roadway to the north side. As was the case with the crossing of Riggin west of Demaree, the City intends to install the line across Riggin by either boring under the existing roadway or open trenching one lane at a time.

After the pipeline crosses Riggin, it proceeds east for a distance of approximately 2,900 feet, lying 30 feet north of the existing north right-of-way line. On this alignment, the sewer line runs through a walnut orchard. For the purpose of installing the line, it appears that only one row of the walnut trees may have to be removed.

Approximately 1,400 feet east of Mooney, the future right-of-way centerline shifts to the south and follows the alignment of the existing centerline and the pipeline shifts to an alignment that is approximately 15 feet north of the existing north right-of-way line. The pipeline continues east on this alignment to Mooney Boulevard, where the planned Shirk-Riggin project will terminate. On this alignment, the sewer line runs along the southern edge of a walnut orchard. For the purpose of installing the line, it appears that only one row of the walnut trees may have to be removed.

It should be noted that the City intends to allow farmers to resume agricultural activities within the new right-of-way that the City will acquire (for the purpose of installing the line) after the line is installed. It also should be noted that whenever the sewer line will be installed within the County right-of-way, such as the north portion of Shirk Avenue, the City intends to obtain an encroachment permit from the County and comply with applicable County traffic control requirements.

Schedule

The City expects to finalize the future Riggin Avenue right-of-way alignment and the alignment of the trunk line in mid-1994, and shortly thereafter, start the process of acquiring the right-of-way needed to install the line. The installation of the line is expected to start in the spring of 1995 and be completed before the end of 1995.

Avenue 276 Trunk Line

The first phase of the Avenue 276 line will begin at the intersection of Akers Road and Caldwell Avenue, where it will connect to the existing 36-inch line on Akers Road, and then extend south one-half mile in Akers to the Avenue 276 alignment, where it will turn east and extend approximately 3.5 miles to Santa Fe. A new line also will be installed in Santa Fe that connects with the Avenue 276 and extends north to Caldwell and then east along Caldwell. The Avenue 276 line will have a diameter of 36 inches on Akers, 33 inches between Akers and Santa Fe. The Santa Fe line will have a diameter of 21 inches.

The first phase of the Avenue 276 line is expected to serve the area between K Road and Caldwell east of Santa Fe that is designated for development prior to the year 2000. Subsequent extensions of the line will serve areas north of Avenue 272 and east of Santa Fe, and areas east of Road 148 and north of Avenue 272 that are expected to develop after the year 2000.

At this time, there is no public right-of-way on the Avenue 276 alignment between Akers and Road 148 and most of the land within the alignment currently is in agricultural production. Therefore, it will be necessary for the City to acquire right-of-way to install the sewer line. It should be noted that the *2020 Plan* "parkway" is on the Avenue 276 alignment between Akers and McAuliff.

The City tentatively expects to develop the preliminary alignment plan for Avenue 276 and the alignment of the Avenue 276 sewer line in the 1995 or 1996 and then start the process of acquiring the right-of-way needed to install the line. The trunk line is expected to be installed in the late 1990s. However, this tentative schedule may be subject to change, depending on how rapidly the area along Caldwell Avenue east of Santa Fe develops.

It should be noted that the City of Farmersville has expressed an interest in connecting their sewer system to the Avenue 276 line in the future. Based on a projection of Farmersville's current rate of growth, the City of Farmersville has estimated that their peak flows will reach approximately 3.0 MGD in the year 2023. In the event that the City of Visalia agrees to accept Farmersville's sewage, the Avenue 276 line would have to be increased in size to accommodate the additional flow. Farmersville would be expected to connect to the Avenue 276 line near Road 148, which is less than two miles west of their treatment plant.

3.0 EXISTING SETTING, ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

3.1 INTRODUCTION

The section of the document describes the environmental setting in the project area, identifies the potential environmental impacts associated with the proposed project, and provides mitigation measures that are intended to reduce the significance of the impacts.

Because the *LUE EIR* adequately describes the existing environmental setting in the Visalia area and the cumulative impacts of the *2020 Plan*, material from the *LUE EIR* frequently is referenced in this section of the document. This EIR presents supplemental material that was not contained in the *LUE EIR*, such as a description of the setting in the vicinity of Master Plan improvement projects, and a discussion of the potential impacts that are directly attributable to implementation of the Master Plan. These "direct" impacts generally consist of the potential impacts associated with the installation of Master Plan improvements. The detail to which these direct impacts can be discussed is related to the degree to which specific improvement projects can be defined.

Because the intent of the Master Plan is to serve the planned land uses of the *2020 Plan*, it was recognized that implementation of the Master Plan will, to some degree, facilitate the development of these land uses. Therefore, for the purpose of this report, the potential cumulative impacts associated with the development of the planned land uses are considered to be "indirect" impacts of the Master Plan.

As discussed in Section 2.7, the Master Plan improvement project that can best be defined at this time is the initial phase of the Shirk-Riggin trunk line. Therefore, the direct impacts associated with this project are specifically identified. However, it should be noted that most of the improvement projects will involve the installation of sewer pipe in rural agricultural areas, and therefore, it is expected that many of the direct impacts associated with the Shirk-Riggin project can also be applied to the other future individual projects. It is understood that the construction of other future projects may be subject to further environmental review at the time they are proposed. It is also understood that the future widening of Riggin may be subject to additional environmental review after the preliminary construction plans for the project have been developed.

3.2 LAND USE

3.2.1 Existing Conditions

a) Existing Land Uses

Planning Area Overview

As discussed in Section 2.3, the Master Plan considers all of the area within the City's 2020 Urban Development Boundary, which encompasses approximately 55 square-miles (35,000 acres). There currently are approximately 14,500 acres of developed urban uses in the Visalia area. The unincorporated community of

Goshen, which is within Visalia's 2020 UDB, has approximately 340 acres of urban development. Section 4.1 of the *LUE EIR* describes the distribution of urban uses in Visalia and Goshen.

Rural residences, farm buildings and other agricultural improvements exist outside of the urban areas. It is estimated that another 6,000 acres are occupied by the latter type of development, leaving a total of approximately 14,000 acres of undeveloped land within the Master Plan Area. It is assumed that most of this undeveloped land is in agricultural production.

Master Plan Project Areas

General

The major Master Plan improvements that will serve future development typically will be installed in areas that are largely rural and undeveloped. In some cases, the improvements will be installed within an existing street right-of-way. In other cases, the improvements will be installed outside of existing rights-of-way through lands that may be in agricultural production.

Riggen Trunk Line

Riggin Avenue is dominated by agricultural uses between Shirk and Mooney. Most of the lands along Riggin are planted in walnut trees, grapes or row crops. Within the planned future right-of-way for Riggin (between Shirk and Mooney), there are approximately 6.5 acres of grapes, 2.2 acres of annual row crops, and nearly 300 walnut trees. Other agricultural-related improvements include a branch of Modoc Ditch along the south side of the roadway between Akers and a point approximately 1,700 feet west of Mooney, and a well and pump on the north side of Riggin between Akers and Linwood.

There are a total of seven rural residential dwelling units that front onto Riggin between Shirk and Demaree (see Figure 2-3). Six of these residences are on the south side of Riggin. There also is a church at the northwest corner of Riggin and Demaree. The main church building, constructed in the early 1900s, is considered a significant local historic resource.

As discussed in Section 2.7, mature valley oak trees exist along Riggin. There are a total of approximately 50 oak trees between Shirk and Riggin (see Figure 2-3). Most of these trees exist along a branch of Modoc Ditch on the south side of Riggin between Demaree and Linwood, including a cluster of 25 trees, located approximately 800 feet east of Linwood. Other notable features along Riggin Avenue include a water storage basin owned by the Modoc Ditch Company on the north side of Riggin at Linwood.

b) Planned Land Uses

Area-Wide Overview

As mentioned earlier, the Master Plan with the objective of identifying the improvements that are needed to accommodate the development of the planned land uses of the *2020 Plan* through the year 2020. The updated Land Use Element establishes that distribution of residential, commercial, industrial, open space, and institutional uses within the 2020 UDB, which encompasses

approximately 35,000 acres. The land uses within the 2020 UDB are expected to accommodate a projected population of 165,000 (with a 30 percent vacancy factor for single-family residential uses). Figure 3-1 presents the planned land uses of the *2020 Plan*.

The *2020 Plan* also established intermediate urban development boundaries. The 2000 UDB encompasses approximately 24,000 acres and is expected to accommodate a projected population of 98,700. A total of 28,700 acres are contained within the 2010 UDB, which is expected to accommodate a project population of 129,000. The *2020 Plan* Urban Area Boundary, which encompasses approximately 90 square miles (58,000 acres), provides an "open space" buffer around the planned land uses within the 2020 UDB.

Riggin Trunk Line

Much of the area that will be served by the planned initial phase of the Riggin trunk line is within the year 2000 UDB. The area north of the Avenue 316 alignment (between Akers and Mooney) is designated for development between the year 2000 and 2010, while the area north of Riggin between Shirk and Akers is designated for development between 2010 and 2020.

Most of service area of the Riggin line is designated for residential uses by the City's *2020 Plan*. Other significant planned land uses within the service area include "Business Research Park (Reserve)" uses south of Riggin and east of Shirk, "Community Center" commercial uses at the northeast corner of Demaree and Riggin, and "Conservation" open space uses at the water storage basin north of Riggin at Linwood.

3.2.2 Environmental Impacts

a) Direct Impacts

Existing Land Uses

General

Most of the major Master Plan improvements, such as the Riggin and Avenue 276 trunk lines, will be installed in rural areas prior to the development of the urban uses that will be served by the improvements. Other Master Plan improvements will be installed at the time the adjoining land uses are developed.

If the planned trunk line projects are installed outside of the existing street right-of-way/easement in rural areas, as the Riggin line will be, there potentially may be a loss of productive farm land, particularly during the actual installation of a line. It is estimated that approximately five acres of farm land will be lost per mile of trunk line when a line is installed through farm land. Therefore, if it is assumed that the three-mile Riggin line, the six-mile Avenue 276 line, and the four-mile Road 148 line will be installed through farm land (and the remaining lines will be installed within existing street rights-of-way), the Master Plan potentially will remove 65 acres of land from agricultural production. However, this loss is insignificant when compared to the total farm land around the Visalia area.

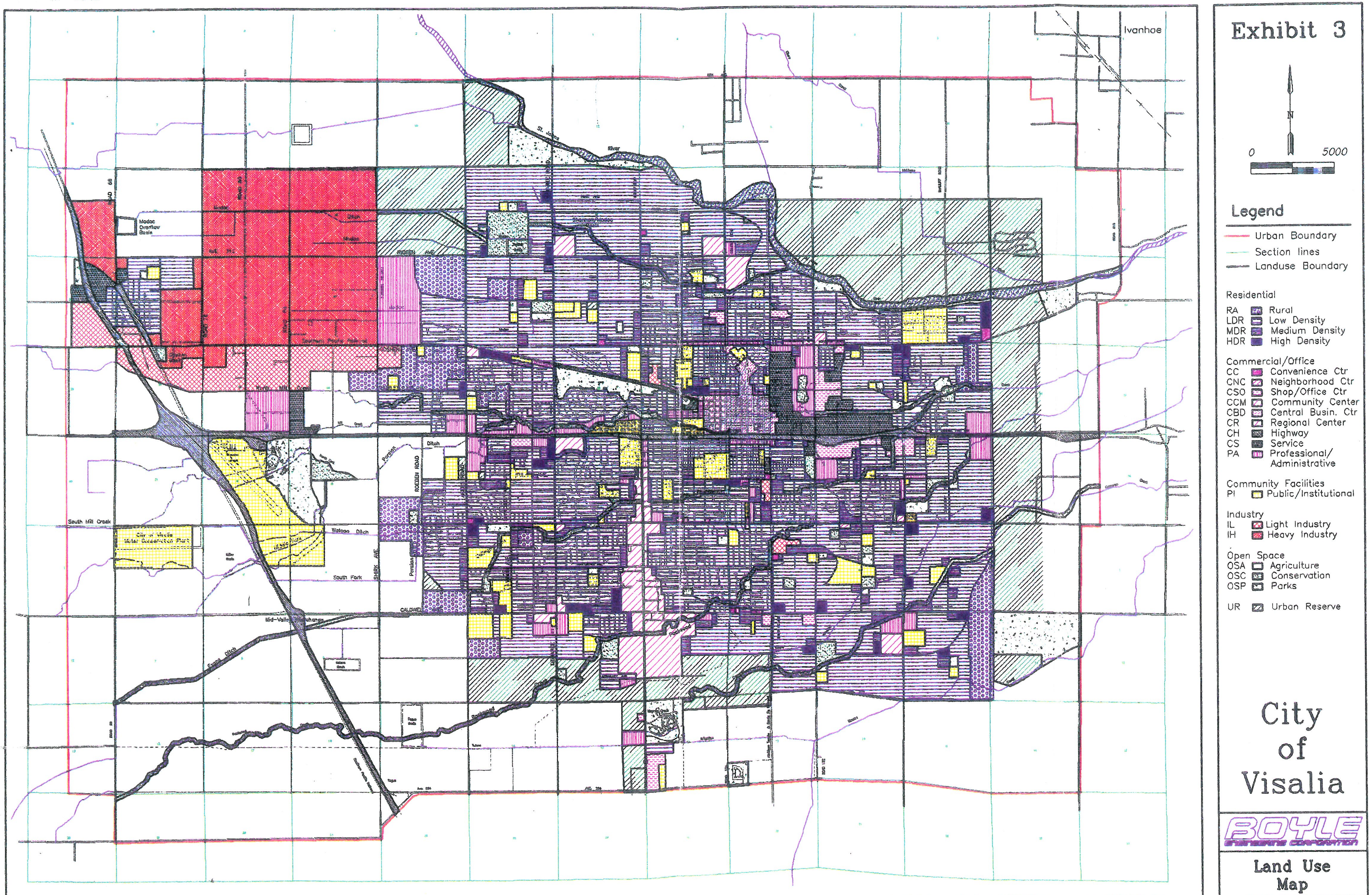


Exhibit 3
N
0
5000
Legend
Urban Boundary
Section lines
Landuse Boundary
Residential
RA Rural
LDR Low Density
MDR Medium Density
HDR High Density
Commercial/Office
CC Convenience Ctr
CNC Neighborhood Ctr
CSO Shop/Office Ctr
CCM Community Center
CBD Central Busin. Ctr
CR Regional Center
CH Highway
CS Service
PA Professional/ Administrative
Community Facilities
PI Public/Institutional
Industry
IL Light Industry
IH Heavy Industry
Open Space
OSA Agriculture
OSC Conservation
OSP Parks
UR Urban Reserve
City of Visalia
BOYLE
ENGINEERING CORPORATION
Land Use Map
Ivanhoe
St. Johns
River
Modoc Overflow Basin
Southern Pacific Railroad
RIGGIN AVE
South Mill Creek
City of Visalia Water Conservation Plant
Watson Ditch
South Fork
SHIRK AVE
ROEBEN ROAD
Persian
Ditch
CALDWEL
Mid-Valley Interchange
Evans Ditch
Packwood

FIGURE 3-1

Furthermore, it should be recognized, that when a line is installed through farm land, it may be feasible to return the land to productive agricultural use after the line is installed, particularly if the effected land is planted in row crops. It should also be recognized that any farm land that will be effected by the installation of a trunk line eventually will be paved over because the lines typically will be installed within the future paved section of a major roadway. Master Plan lines that are installed in developing areas will be installed within existing right-of-way and are not expected to result in the loss of farm land.

Riggin Trunk Line

The City's proposal to acquire additional right-of-way along Riggin (for the installation of the sewer line) is not expected to have a significant impact on the residences along the roadway. The four houses between Shirk and Linwood are on the south side of the roadway and virtually all of the additional right-of-way that is needed for the future widening of Riggin (within these limits) will be obtained from the north side of the roadway.

Two of the three houses between Linwood and Demaree will lose some of their current setback as a result of the City's acquisition of additional right-of-way for the sewer line project. The most westerly of the three houses is on the south side of Riggin and all of the additional right-of-way that is needed for the widening of Riggin (in the vicinity of the house) will come off the north side of the roadway.

The middle of the three houses is on the north side of Riggin (on the parcel immediately east of the water storage basin) at a point where the future Riggin right-of-way alignment curves to the south and the sewer line crosses the roadway. For the purpose of installing the sewer line, the City intends to acquire the right-of-way (from this parcel) that is needed for the future widening of the roadway at the crossing, which will result in the loss of an average of approximately 40 feet off the front of the parcel. The house still will have at least 75 feet of setback from the planned right-of-way line. The sewer line will cross the westerly "leg" of this residence's circular driveway, which means that this portion of the driveway will be closed during the installation of the line. The City intends to make sure that access to the parcel will be provided at all times during the installation of the line. The City will also replace or repair any other improvements and landscaping on the property that are damage during the installation of the sewer line.

The most easterly of the three houses is on the south side of Riggin and for the purpose of installing the sewer line,the City intends to acquire the 40 feet of additional right-of-way that is needed on the south side of Riggin for the future widening of the roadway (in the vicinity of the house). The residence will have a setback of approximately 190 feet from the planned right-of-way line. There are no residences that front onto Riggin between Demaree and Mooney.

With respect to farm land impacts, as mentioned above, there are approximately 6.5 acres of grapes, 2.2 acres of annual row crops, and nearly 300 mature walnut trees within the planned future right-of-way for Riggin. It is expected that most, if not virtually all, of the grapes and crops and approximately 250 walnut trees will have to be removed during the installation of the sewer line.

The City also expects that all agricultural activities within the future right-of-way will have to be stopped when the roadway is widened. However, it should be noted that designated "arterial" roadways, such as Riggin, generally are not fully widened until the adjoining land is being developed.

In an effort to reduce the significance of the loss of farm land that will be attributed to the installation of the sewer line, the City intends to allow farmers to resume agricultural activities within the new right-of-way that the City will acquire (for the purpose of installing the line) after the line is installed. This means that farmers can re-plant any crops, vines or trees that will be removed during the installation of the sewer line and generally keep the new right-of-way in agricultural production until the roadway is widened.

As mentioned earlier, it is likely that the well on the north side of Riggin west of Linwood will be damaged during the installation of the sewer line. In the event that any underground irrigation improvements are destroyed or damaged during the installation of the sewer line, the City will either replace the improvements or compensate the farmer for the cost of replacing the improvements.

A discussion of the potential impacts that the project will have on the oaks trees along Riggin is discussed in Section 3.7.2 of this document.

Planned Land Uses

In general, the installation of Master Plan improvements is not expected to have a significant impact on the planned land uses within Visalia's 2020 Urban Development Boundary. The improvements typically will be installed before (or at the time) the adjoining lands are developed.

As mentioned in Section 1.1, the *2020 Plan* contains a policy that explicitly encourages the preparation and implementation of a 50-year master plan for the City's sewer system that implements the land use goals, objectives, and policies of *2020 Plan* and stresses oversizing to meet long-range demand. Because the underlying intent of the proposed Master Plan is to comply with this policy, the Master Plan generally is considered to be consistent with the *2020 Plan*. However, it can be argued that some aspects of the Master Plan potentially may be "growth inducing" because planned improvements potentially can result in pressures to prematurely develop lands.

One potential growth-inducing aspect of the Master Plan is that several trunk lines have been sized to serve the planned 2020 land uses as well as areas that are expected to develop after the year 2020. As mentioned in Section 2.6, this was done because some the trunk lines that serve pre-2020 development also will serve post-2020 development and the cost of "up-sizing" pipe (to serve additional development) is relatively small when compared to the cost of installing new parallel or replacement lines in the future. This approach to sizing the new trunk lines was considered cost-effective, long-range planning consistent with Policy 5.1.4 of the *2020 Plan*.

With respect to the potential growth-inducing aspects of specific projects, the Master Plan recommends installing the Avenue 276 line prior to the year 2000 to serve lands north of Caldwell and east of Santa Fe that are designated for development during the first growth phase of the *2020 Plan*, i.e. 1993-2000.

However, lands south of the Avenue 276 alignment are designated for development after the year 2010, and there may be pressure to prematurely develop these lands after the line is installed. In addition, the southern limit of the 2020 UDB is one-half mile south of the Avenue 276 alignment along Avenue 272 and pressures may arise to develop lands south of Avenue 272. However, as discussed in Section 2.6, the City has expressed an interest in maintaining the area south of Avenue 272 in agriculture as a buffer between Visalia and Tulare. In an effort to reduce the pressure to prematurely develop lands south of Avenue 272, the Avenue 276 line has been sized to serve only lands within the 2020 UDB. However, as mentioned earlier, it is expected that a new line will have to be installed to serve lands south of Avenue 272 (outside of the 2020 UDB) should the City's policy on development south of Avenue 272 change prior to the installation of the planned Avenue 276 line.

Installation of the planned Riggin trunk line also may create pressures to prematurely develop lands. The segment of the line between Shirk and Akers is adjacent to land designated for development during the third growth phase of the *2020 Plan*, i.e. 2010 to 2020. Because the line will be sized to serve this area, pressure to develop the land prior to the year 2010 may be placed on the City. The Master Plan also recommends that a future extension of the Shirk line (north of Riggin) serve lands along Avenue 320 that are outside of the 2020 UDB.

b) Indirect Impacts

The *LUE Update EIR* attributes several significant land use cumulative impacts to the implementation of the *2020 Plan*. The identified impacts include conflicts between incompatible land uses, such as agricultural and urban uses; the loss of land for a particular use, such as loss of farm land to urban uses; and an imbalance of land use types.

The LUE EIR indicates that the updated LUE includes a number of policies that are intended to reduce the significance of the identified land use impacts, including the loss of farm land to urban development.

3.2.3 Mitigation Measures

a) Direct Impacts:

Loss of Farm Land

To mitigate the loss of farm land that will occur during the installation of the pipe lines in agricultural fields, the City should, when practical, allow and encourage farmers to re-plant crops over the pipelines (following the installation) and continue farming land (within the new right-of-way) until the roadway is widened. This would particularly apply to the installation of the Riggin trunk line.

Additionally, when possible, the City should attempt to minimize the disturbance of mature walnut trees and underground irrigation systems. The City should repair or replace any underground irrigation improvements that are damaged during the installation of sewer lines or compensate the farmer for the cost of replacing the improvements.

Growth-Inducing Pressures

The City should resist pressures to prematurely develop lands that can be served by installed Master Plan improvements by adhering to the growth phasing policies of the *2020 Plan*. Policy 6.2.2 states that new or expanded urban development between the 2020 UDB and the UAB should be discouraged because the intervening area is largely agricultural land that generally is not suited for urban uses. Policy 6.2.3 refers to the factors that were considered in establishing the 2000, 2010, and 2020 UDBs for the *2020 Plan*. Policy 6.2.3 also refers to compliance with a "buildout" criteria before development can occur outside of the 2010 and 2020 UDBs. This criteria is described in Appendix C of the *Land Use Element*. Policy 6.2.6 states that annexation of land outside of the current UDB may be permitted only if: a) the proposal is required for orderly and efficient land use planning within Visalia's planning area, and b) the land is designated consistent with the City's LUE Map.

As a means to delay the installation of the Avenue 276 line, the City should attempt to serve pre-2000 development in the area north of Caldwell and east of Santa Fe with an extension of the Caldwell line. As indicated in the Master Plan, it appears that a portion of the flows from the Early California Foods plant on Santa Fe can be diverted from the Caldwell line to the Walnut line, thereby allowing the Caldwell line to serve the area east of Santa Fe. Based on the flows reported in the Master Plan, approximately 300 to 400 acres of single-family residential development (east of Santa Fe) could be served by an extension of the Caldwell line if sewage from the Early California Foods plant was diverted to the Walnut line. It may be feasible to serve additional acreage east of Santa Fe with the Caldwell line if limited "bottlenecks" in the Walnut line (downstream of Santa Fe) were upgraded.

b) Indirect Impacts

The *LUE EIR* contains a number of measures that are intended to reduce the significance of potential land use impacts. Measures presented in Section 4.1.5 relate to potential land use conflict and land supply balance impacts. Section 4.2.4 presents the mitigation measures that relate to potential "loss of farm land" impacts. These "loss of farm land" measures include increasing residential densities in areas where the infrastructure will not be adversely affected, and implementing a growth management system which will give preference to development proposals contiguous to existing development.

3.2.4 Residual Impacts

a) Direct Impacts

With the recommended mitigation measures, the direct impacts of installing Master Plan improvements in general, and the Shirk-Riggin trunk line in particular, should be reduced to a level of insignificance.

b) Indirect Impacts

The *LUE EIR* states that the loss of prime farm land will remain a significant and unavoidable impact because farm lands cannot be replaced.

3.3 POPULATION AND HOUSING

3.3.1 Existing Setting

a) Planning Area Overview

Population

The City of Visalia's current population is estimated to be 86,000. Visalia has experienced a steady growth in population since the early 1970s. The average annual growth from 1975 to 1990 was approximately 3.5 percent.

Population projections for Visalia that were utilized in the *2020 Plan* assumed that local population will increase at the rate of 3.5 percent per year through 1995, with an 0.25 percent reduction in the growth rate over each subsequent five-year interval, until a "steady state" growth rate of 2.5 percent per year is reached by the year 2015). The *2020 Plan* projects that the Visalia's population will total 98,700 in the year 2000; 129,400 in the year 2010; and 165,000 by the year 2000.

Currently, the City's population generally is distributed in what is referred to as a "concentric" pattern, with the City's traditional central business district being the approximate geographic center of the community and residential and other urban development surrounding this core. Through the 1960's and early 1970's, residential development in Visalia occurred predominantly in the southwesterly portion of the community, taking advantage of proximity to existing infrastructure and comparatively low-cost connections, since the City's wastewater treatment facilities were located west of town. City land use policy began to change in the very early 1970's, however, with the designation of a high school, middle, and elementary school complex in northeast Visalia. In 1976, this policy direction became formalized with the adoption of an updated Land Use Element of the General Plan, which explicitly prescribed more development to the northeast and deliberately constrained further urbanization of the southerly and westerly portions of Visalia.

The *2020 Plan*, establishes a policy framework and land use designations which will continue to keep the central business district at the approximate geographic center of the community and to promote concentric growth in all four quadrants of the City.

Housing

The *LUE EIR* indicates that the State Department of Finance estimated that there were a total of 25,596 dwelling units in Visalia in 1989. The predominant dwelling type was single family residences of which there were 18,835 units. The single family units comprised approximately seventy to seventy-five percent of the total housing stock in the community. There were approximately 5,716 multiple family dwelling units, which comprised about twenty to twenty-five percent of the local housing stock, and 1,045 mobile home units, which accounted for about four percent of the housing in Visalia.

The 1992 update of the City's Housing Element indicates that the 1990 U.S. Census reported that there were a total of 28,651 housing units in Visalia, including 20,643 single-family units, 6,511 multi-family units, and 1,497

mobile home units. The 1990 Census also reported that the average household size in Visalia had increased from 2.55 persons in 1980 to 2.78 persons in 1990. This increase was attributed, in part, to the influx of Southeast Asians to Visalia during the 1980s.

The updated Housing Element indicated that between 1980 and 1990, a total of 5,940 new housing units were constructed, while 72 units were demolished, resulting in a net gain of 5,868 housing units, or an average of 587 units per year. Single-family units comprised approximately 74 percent of the total number constructed.

In 1991, a "vacant land" survey by the City indicated that there were approximately 1,900 acres of vacant land that could be developed for residential uses within the city limits. The *2020 Plan* designates an additional 9,400 acres of land for residential uses. Approximately 3,200 acres of this total is available for development by the year 2000. It should be noted that the lands designated for residential uses include a 30 percent contingency or "flexibility factor". This means that the designated lands will accommodate approximately 130 percent of the *2020 Plan's* projected increase in Visalia's population (by the year 2020).

The *LUE EIR* indicated that the average prices for newly-constructed housing units in Visalia have been increasing steadily since 1982. In 1990, the estimated average price for a newly-constructed single family dwelling unit was approximately $106,000. Factors potentially affecting housing pricing typically include vacancy rates and the availability of competing products in the market area, land costs, construction costs, and underlying social and economic factors which create demand for housing (for example, the influx of relocated Southern California and San Francisco Bay Area residents to the central San Joaquin Valley in the late 1980's and early 1990's).

b) Project Areas

Population

The Master Plan improvements that serve future development generally will be installed in either rural areas that are sparsely populated or unpopulated areas that are being prepared for development.

Housing

As mentioned earlier, the Master Plan improvements that will serve future development generally will be installed in largely undeveloped, rural areas that are improved with a limited number of residences.

In the case of the Riggin line project, as discussed in Section 3.2.1, there are seven residences along the three-mile alignment of the proposed line trunk line. Four of these residences are on the south side of Riggin between Shirk and Linwood, where the additional right-of-way needed for the future widening of the roadway generally will be obtained from the north side of the existing roadway. The remaining three residences are between Linwood and Demaree. The most westerly of the three houses is on the south side of Riggin and all of the additional right-of-way that is needed for the widening of Riggin (in the vicinity of the house) will come off the north side of the roadway.

The middle of the three houses is on the north side of Riggin at a point where the future Riggin right-of-way alignment curves to the south and the sewer line crosses the roadway. For the purpose of installing the sewer line, the City intends to acquire the right-of-way that is needed for the future widening of the roadway at the crossing, which will leave the house with a minimum setback of approximately 75 feet from the planned right-of-way line. The most easterly of the three houses is on the south side of Riggin and for the purpose of installing the sewer line,the City intends to acquire the 40 feet of additional right-of-way that is needed on the south side of Riggin for the future widening of the roadway (in the vicinity of the house). The residence will have a setback of approximately 190 feet from the planned right-of-way line.

3.3.2 Project Impacts

a) Direct Impacts

Population

Because the Master Plan improvements generally will be installed in largely undeveloped, rural areas, the construction and subsequent use of the improvements is not expected to displace existing residents in the vicinity of the projects.

With regard to the Shirk-Riggin line, as mentioned earlier, the proposed plan to acquire additional right-of-way for the installation of the line is not expected to result in the relocation of the residences along Riggin or their occupants.

It should be noted that because the Master Plan was developed to serve the planned land uses of the *2020 Plan*, the Master Plan improvements should not have an adverse effect on the planned distribution of Visalia's projected 2020 population.

Housing

In general, the installation and subsequent use of Master Plan improvements is not expected to have a significant impact on existing housing conditions in the vicinity of these improvements. When additional right-of-way is needed to install pipelines in rural areas, the City intends to avoid "taking" any existing residences along the alignment of the pipeline.

In the case of the Riggin line, the planned acquisition of the additional right-of-way (that is needed for the future widening of the roadway) and the installation of the line generally should not have a significant effect on the residences along the project area. However, as discussed above, one of the residences will be somewhat more effected by the City's planned Riggin right-of-way alignment than the other residences. This residence, located approximately 1,200 feet west of Demaree where the planned right-of-way centerline crosses from the north side of Riggin to the south side of the roadway, is the only one on the north side of Riggin. Although this residence will not be significantly effected by the installation of the sewer line, it will lose approximately one-third of it's setback from Riggin when the roadway is widened. It should be noted that the environmental impacts associated with the future widening of Riggin will be addressed in a future study.

b) Indirect Impacts

Population

Section 4.4.3 of the *LUE EIR* indicates that the population impacts associated with the implementation of the *2020 Plan* are considered less than significant. Therefore, the indirect impacts associated with implementation of the Master Plan are not considered significant.

Housing

The *LUE EIR* states that implementation of the *2020 Plan* would not significantly effect housing supply and demand in Visalia. Therefore, implementation of the Master Plan is not expected to result in any significant indirect housing impacts.

3.3.3 Mitigation Measures

a) Direct Impacts

Population

The proposed project is not expected to have a significant impact on the existing or planned population of Visalia. Therefore, no mitigation measures are required.

Housing

In the absence of any significant potential impacts on the community housing stock or supply that are attributable, either directly or indirectly, to the proposed project, no mitigation measures are required.

b) Indirect Impacts

Because there *LUE EIR* did not attribute any significant population and housing impacts to the development of the planned land uses of the *2020 Plan*, no mitigation measures were recommended.

3.3.4 Residual Impacts

The population and housing impacts of the projects are less than significant.

3.4 TRAFFIC/CIRCULATION

3.4.1 Existing Setting

a) Planning Area Overview

Visalia is served by a circulation network that is built on a grid of "arterial" and "collector" roadways. The arterials are spaced one mile apart, while the collectors generally exist at one-half mile intervals between the arterials.

Major east-west components of the City's circulation network include State Route 198, a four-lane highway through central Visalia that extends west to Highway 101 and east into Sequoia National Park; and Caldwell Avenue, a roadway of regional significance in the southern portion of the community. Major north-south components include Mooney Boulevard, a major commercial roadway that extends south to Tulare; and Road 80 (Plaza Drive), which extends north of S.R. 198 through the City's Industrial Park to Dinuba and beyond. Several of Visalia's arterial roadways are part of Tulare County's recently adopted *Congestion Management Plan* (CMP) network.

The *LUE EIR* referenced the City's 1989 Circulation Element for a description of the existing circulation/traffic conditions in Visalia. The major conclusion of the 1989 document is that "...for the most part, there is more than adequate capacity in Visalia's existing circulation system for existing levels of development..." The document also identified areas that are experiencing congestion problems, and other deficiencies in the system.

It should be noted that the City currently is in the process of updating its Circulation Element. The updated Element will identify the improvements that are needed to serve the planned land uses of the *2020 Plan*.

b) Project Areas

Virtually all of the Master Plan improvements that are needed to serve future development will be installed in roadways that are designated as future "arterials" by the City's update LUE. Because these improvements will be installed in areas that are largely rural and undeveloped, in many cases the roadways were constructed to a width that accommodates one travel lane in each direction without a paved shoulder or curb and gutter. However, as the adjacent lands develop, these roadways will be widened and improved in accordance with City standards.

The planned initial phase of the Shirk-Riggin project will involve installing sewer pipe in Shirk south of Riggin, and along Riggin between Shirk and Mooney. This segment of Shirk generally is paved to a width of 24 feet with one travel lane in each direction. For a distance of approximately 600 feet north of Sunnyview, Shirk is within the city limits of Visalia. The remainder of Shirk is under the control of Tulare County. The *2020 Plan* designates Shirk as an "arterial" roadway. As the adjoining lands are developed, it will be widened and improved in accordance with the City's standard for "arterials". Between Riggin and Walnut, the *2020 Plan* indicates that Shirk is identified as a segment of the planned "parkway" that will be established around Visalia.

Riggin also typically is paved to width of 24 feet with one travel lane in each direction. With the exception of a quarter-mile segment immediately west of Akers that is within the city limits, Riggin is under the control of Tulare County. The *2020 Plan* designates Riggin as an "arterial" roadway between Road 72 and Lovers Lane, and as the adjoining lands are developed, it will be widened and improved. Between Shirk and Lovers Lane, Riggin is identified as a segment of the *2020 Plan* "parkway".

3.4.2 Project Impacts

a) Direct Impacts

The potential direct impacts associated with the implementation of the Master Plan are limited to traffic flow disruptions during the installation of improvements. An individual improvement project normally should not generate any vehicle trips after the installation of the improvement is completed.

With regard to potential traffic disruptions, if the sewer lines are installed within or near the paved section of existing roadways, it is likely that at least one of the travel lanes will have to be closed during the installation process. The significance of such a closing would depend on the traffic volume on the roadway, particularly during the morning and afternoon peak-hours, and the duration of the closure.

In the case of the Riggin trunk line, the City intends to acquire additional right-of-way along much of the roadway and install the lines outside of the existing right-of-way in order to avoid disrupting the flow of traffic. At the crossings of Riggin and other major roadways along the proposed pipeline alignment, the City generally plans to bore under the pavement or open trench one lane at a time. Should it be necessary to work in the paved section, the City will attempt to leave one lane open and provide appropriate traffic control measures. Based on the City's planned approach for installing the Riggin line, the traffic impacts associated with the project are not expected to be significant.

b) Indirect Impacts

The *LUE EIR* evaluated the traffic impacts associated with full development of the planned land uses of the *2020 Plan*. The results of this evaluation indicated that the City's circulation system (with the improvements recommended in the 1989 Circulation Element) will not have adequate capacity to carry the traffic volumes that will be generated by the planned land uses and maintain acceptable levels-of-service.

A number of "arterial" roadway segments will be at level-of-service D or worse at build-out of the *2020 Plan*; including Plaza Drive north of S.R. 198, Akers Road between Walnut and Goshen, Mooney Boulevard between Liberty and Main, Caldwell between S.R. 99 and Lovers Lane, and Goshen Avenue between S.R. 99 and Giddings.

Based on the traffic volumes and associated congestion that will be generated by the development of the planned land uses, the *LUE EIR* concludes that the traffic impacts associated with implementation of the *2020 Plan* are significant. It should be noted, however, that the City's in-progress update of the Circulation Element is expected to identify the improvements that are needed to maintain acceptable levels-of-service as the planned land use develop.

The *2020 Plan* contained a number of policies that are intended to mitigate the traffic and circulation impacts associated with development of the planned land uses.

3.4.3 Mitigation Measures

a) Direct Impacts

In the absence of any significant potential traffic-related impacts that are directly attributable to the proposed project, no mitigation measures are required.

b) Indirect Impacts

The *LUE EIR* included a number of measures that are intended to mitigate potentially significant traffic and circulation impacts. Many of the *LUE EIR* mitigation measures were to be addressed during the current update of the Circulation Element.

3.4.4 Residual Impacts

a) Direct Impacts

The identified impacts of the project are less than significant.

b) Indirect Impacts

The *LUE Update EIR* concluded that notwithstanding the prospective implementation of the mitigation measures contained in the *EIR* and the related LUE policies referenced above, it is likely that the potential significant traffic and circulation impacts associated with development of the planned uses cannot be fully mitigated to a level of insignificance. Therefore, the indirect impacts associated with implementation of the Master Plan are considered significant and unavoidable.

3.5 AIR QUALITY

3.5.1 Existing Setting

Wind Patterns

Visalia lies within the San Joaquin Valley Air Basin. This basin is surrounded on the east and south by mountains ranging in height up to 13,000 feet or more and on the west by mountains of up to 4,000 feet in elevation. Although marine air generally flows into the Basin through the San Joaquin Delta, the surrounding mountains restrict air movement into and through the Basin. Persistent high pressure cells over the Valley also result in extended periods of poor air circulation.

During the summer, the prevailing winds within the Basin generally are from the northwest. During the winter, the Basin generally experiences low speed winds from the south-southeast. Temperature inversions, which occur in a stable atmosphere of warm air over cooler air, impede upward air movements, particularly during the winter in the southern portion of the Basin. As a result of the surrounding mountains and poor air circulation, the San Joaquin Valley is subject to poor air quality.

Pollutant Characteristics

The air pollutants of most concern in Tulare County are ozone and PM10. A brief discussion of these pollutants is provided below.

Ozone is not a directly-emitted pollutant. Ozone is formed when so-called "precursors of ozone", specifically nitrogen oxides (NOx) and reactive organic gases (ROG), react to sunlight. Ozone is an invisible, odorless gas, and when concentrated in the lower atmosphere, can cause or aggravate respiratory problems in humans. Ozone concentrations can also result in cracked rubber (e.g. tires) and can interfere with photosynthesis in plants. This latter potential results in ozone being regarded as a substantial risk to agricultural crop production, the growth of ornamental plants, and the sustenance of natural vegetation.

PM10 is fine particulate matter composed of very small particles (less than ten microns, or 1/1,000,000 meter) of such substances as dust, soot, aerosols, fumes and mists. The San Joaquin Valley's PM10 problem is caused in part by the same emissions which cause ozone concentrations: ROG and NOx. In addition, PM10 concentrations are the result of other human activities, including agricultural operations, industrial processes, combustion of fossil fuels, construction and demolition and entrainment of road dust into the air. Natural sources of PM10 include windblown dust and wildfires.

Pollutant Emissions

The State Air Resources Board operates one air quality monitoring station (that measures gaseous pollutants) in Tulare County. The station is located on Church Street in north Visalia. Based on the data collected at the Visalia station, the Air Resources Board has designated Tulare County as a "non-attainment" area for State ambient ozone and PM10 standards. A "non-attainment" designation means the pollutant concentration in the area exceeded the standard established by the State at least once in the last three years. While Fresno, Kern, San Joaquin, and Stanislaus counties were designated "non-attainment" areas for carbon monoxide, it should be noted that this pollutant is not measured in Tulare County. A more comprehensive discussion of the State and Federal air quality standards is presented in Section 4.6.1 of the *LUE EIR*.

Air Quality Regulations

The California Clean Air Act, passed in 1988, requires regional air pollution control districts to prepare air quality attainment plans that provide for a reduction in ozone precursor and carbon monoxide emissions (Note: PM10 attainment is mandated by federal regulations). The plans must achieve an annual reduction of five percent or more in district-wide emissions. The "baseline" reference for the reductions is the level of emissions that were generated in 1987.

The San Joaquin Valley Unified Air Pollution Control District (APCD), an eight-county agency that was formed in 1990 to address air quality problems on a valley-wide basis, adopted its *Air Quality Attainment Plan* in January of 1992. As required by the California Clean Air Act, the *Plan* presents strategies and measures for controlling ozone precursor and carbon monoxide emissions, the

control measures for stationary sources and transportation control measures that reduce vehicle emissions.

In addition to the mandates of the California Clean Air Act, State and federal agencies have established standards for ambient air quality which are not to be equaled or exceeded if maintenance of human health and other desirable objectives are to be achieved.

3.5.2 Project Impacts

Overview

The *CEQA Guidelines* state that a project will normally have a significant effect on the environment if it will "violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations."

Because Tulare County is a non-attainment area for ozone and PM10 standards, any project that results in increased ozone precursor or PM10 emissions could be viewed as having significant air quality impacts. However, if the project includes mitigations measures that implement the best emissions control measures available pursuant to the APCD's 1991 *Air Quality Attainment Plan*, APCD considers the impacts to be mitigated to a level of insignificance.

a) Direct Impacts

During the installation of Master Plan lines, the clearing of the land along the pipeline alignment, the excavation and back-filling of the pipeline trench, and general grading activities may result in suspended dust particles, particularly under windy conditions. The rate of dust generation depends upon soil moisture and clay content, wind speed, and activity level. Dust generated during the installation of the lines may contribute to PM10 levels that exceed short-term standards established by the State Air Resources Board.

Because the Master Plan lines are not expected to generate trips after they have been installed, the individual Master Plan projects, including the Shirk-Riggin line, should not be considered indirect sources of automobile emissions.

b) Indirect Impacts

The potential indirect and cumulative impacts associated with the implementation of the Master Plan consist of the long-term impacts that are directly attributable to the development of the planned land uses of the *2020 Plan*. The *LUE Update EIR* indicated that these long-term impacts are attributed to the emissions that will be produced by stationary (industrial) sources and mobile (vehicle) sources.

The *LUE EIR* did not include an analysis of the emissions that will be produced by stationary sources due to the lack of specific information on future projects. However, the *EIR* indicates that the long-term vehicle emissions associated with implementation of the updated LUE are considerable, and these additional emissions will exacerbate the existing local and regional air quality problems. Therefore, the air quality impacts associated with the *2020 Plan* are characterized as significant in the *LUE EIR*.

3.5.3 Mitigation Measures

a) Direct Impacts

In order to mitigate the potential short-term impacts associated with the installation of Master Plan lines, the City should ensure that the following dust control measures are implemented:

1) All material excavated or graded should be sufficiently watered to prevent excessive dust generation. Watering should occur at least twice a day, preferably in the late morning and at the end of the work day.

2) All clearing, grading and excavation activities should cease when the wind speed exceeds 30 mph for one hour.

3) All material transported off-site shall be either sufficiently watered or securely covered to prevent excessive dust.

4) The area disturbed by clearing, grading, and excavation activities should be minimized at all times.

5) On-site vehicles speeds should not exceed 15 mph.

6) All internal combustion engines operating on the site should be properly maintained and well tuned.

Because implementation of the Master Plan is not expected to result in any significant long-term impacts, no post-construction mitigation measures are required.

b) Indirect Impacts

The *2020 Plan* included a number of policies that were intended to reduce the significance of the air quality impacts that would result from the development of the planned land uses. The LUE Update EIR also contained several mitigation measures to reduce the significance of the impacts of the *Plan*. Many of these mitigation measures are consistent with the transportation control measures (TCMs) contained in SJVUAPCD's recently adopted *Air Quality Attainment Plan*.

3.5.4 Residual Impacts

a) Direct Impacts

With the recommended mitigation measures, the short-term impacts associated with the installation of sewer lines will be reduced to a level of insignificance. The long-term, post-construction impacts of the Master Plan are less than significant.

b) Indirect Impacts

The *LUE Update EIR* indicates that even with the implementation of the LUE policies and the recommended mitigation measures, the air quality impacts of future vehicle emissions are expected to remain significant. The *EIR* also

indicates that these vehicle emissions, together with emissions from future stationary sources, are expected to contribute to the continued non-attainment of state and federal air quality standards in the Visalia area.

3.6 WATER RESOURCES

3.6.1 Existing Setting

This section presents a discussion of existing surface drainage, groundwater, water supply/demand, and water quality conditions in the Visalia area.

a. Surface Drainage

The southern end of the San Joaquin Valley is part of the Tulare Basin, which has no external drainage. The Kaweah River, Tule River and other channels on the east side of the southern Valley historically drained to the Tulare Lake Bed, located approximately 30 miles southwest of Visalia. With the flood control/water supply projects that have been constructed along the foothills on the east side of the valley, water in these channels typically reach the Lake Bed only under high flow conditions.

Visalia is within the Kaweah River drainage area, which includes a 560-square mile watershed that drains into Lake Kaweah, located approximately 20 miles east of Visalia. Flows into Lake Kaweah, which is operated for flood control, irrigation and water conservation purposes, are controlled by Terminus Dam.

The Kaweah River splits into the Lower Kaweah River and the St. Johns River at McKays Point, approximately three miles below Terminus Dam. The Lower Kaweah River is the main channel in a distributary system that includes numerous channels in the Visalia area. These distributary channels, which include natural channels like Mill Creek, and man-made ditches like Evans Ditch and Persian Ditch. The St. Johns River, which feeds several irrigation ditches, traverses northeast Visalia.

These channels deliver irrigation water to farm lands and surplus water to recharge basins. Many of these channels also receive stormwater runoff discharges from the City's storm drainage system. Treated effluent from the City's waste water treatment plant, located west of S.H. 99, also is discharged into the Mill Creek, typically during the spring and summer.

Prior to the completion of Terminus Dam in 1962, the Kaweah River drainage area on the valley floor had flooded on numerous occasions. Although Lake Kaweah has not spilled uncontrollably since the Dam was completed, high flows on unregulated channels tributary to the Kaweah River have resulted in the flooding of mostly agricultural land in December of 1966 and January of 1969. The U.S. Army Corps of Engineers currently indicates that Lake Kaweah is expected to spill approximately once every 50 years, i.e. a two percent probability of spilling in any given year.

b) Groundwater

Groundwater in the Visalia area is found in largely unconfined aquifers composed of alluvial fan deposits that normally have moderate to high well yields. The major source of groundwater replenishment in this area is the infiltration and percolation of surface water from the Kaweah River system.

The groundwater level in the Visalia area fluctuates somewhat in response to variations in precipitation and availability of surface water, and the magnitude of groundwater withdrawals. The depth to static water level generally ranges from 70 to 90 feet in the Visalia area. Since 1940, when CWSC began recording groundwater levels, the water table in the Visalia area has dropped approximately 30 to 40 feet.

Kaweah Delta Water Conservation District reports that the Kaweah River Basin is in a long-term groundwater overdraft condition as a result of average annual groundwater withdrawals (and other losses) exceeding the average annual volume of groundwater replenishment. This overdraft condition is expected to continue indefinitely unless the supply of surface water that is available to the basin can be increased. In the Visalia area, while water levels will continue to rise and fall in a cyclical fashion (in response to meteorological conditions), the overdraft condition is expected to result in a long-term decline in water levels.

c) Water Supply/Demand

Municipal Water

The primary municipal water purveyor in the Visalia area is the California Water Service Company (CWSC). CWSC maintains approximately 60 wells in service with an overall rated capacity of approximately 40,000 gallons per minute (60 million gallons per day). CWSC reports that the average demand for residential, commercial, and institutional customers in the Visalia area is approximately 22,000 acre-feet per year. Based on a current population of 86,000, the current city-wide average per capita demand is approximately 230 gallons per day per capita.

Agricultural Water

Water is used to irrigate agricultural lands in the Visalia area. Ground water and surface water both are used to irrigate crops. Ground water is pumped from the underlying aquifer system, while surface water is delivered from Lake Kaweah through a network of natural channels and man-made, privately-owned ditches. The natural channels that are used to deliver irrigation water in the Visalia area include the St. Johns River, Mill Creek and Packwood Creek. The local ditch channels that deliver water to the farm lands include Modoc Ditch, Evans Ditch, Persian Ditch and Watson Ditch.

Irrigators generally use surface water to the maximum extent possible to conserve groundwater supplies and minimize their pumping costs. Groundwater typically is used when surface water supplies are not available or cannot fully satisfy the water demand of the irrigated crops. On the average, surface water deliveries satisfy approximately one-half of the crop demand. However, during

below average water years, irrigators may receive very little of their normal surface water delivery, which means they must rely primarily on groundwater to irrigate their crops.

d) Water Quality

Because of the region's intensive agricultural activities, of particular concern in the San Joaquin Valley is groundwater pollution resulting from infiltration of contaminated agricultural drainage. The soil fumigant dibromochloropropane (DBCP) is the most prevalent groundwater pesticide contaminant in the Valley.

The majority of wells supplying water to Visalia produce water of sufficient quality to meet State drinking water standards. Section 4.10.2.3 of the *LUE EIR* identifies the CWSC wells that have detectable levels of organic chemicals, including the wells that exceed State standards.

In and around the City of Visalia, a number of sites of with soil and groundwater contamination. These sites include the Stanley Bostitch facility located at the intersection of N. Shirk Road and W. Goshen Avenue; the Southern California Edison Visalia Pole Yard on Ben Maddox Way north of Center Street; and the former Green Acres Airport. The *LUE EIR* reported that all three sites are being remediated under the California Hazardous Substance Cleanup Bond Act (state superfund).

3.6.2 Impacts

a) Direct Impacts

The potential water quality and quantity impacts that are directly attributable to the installation of Master Plan improvements are not expected to be significant. The installation project should not result in an increase in impervious area that will increase the volume or rate of storm water runoff from project areas. Because the project areas generally are in unpaved rural lands that are not within the service area of the an existing drainage system, it is expected that runoff from these areas normally is retained on-site and does not drain to an established waterway.

Because runoff from the installation areas generally does not drain off-site, the potential for discharging sediments to an established waterway during the installation of the improvements is minimal. Furthermore, the installation projects should not result in the introduction of the potential contaminants that commonly are associated with developed urban uses after the improvements have been installed. Therefore, these projects are not expected to have significant water quality impacts.

b) Indirect Impacts

The *LUE EIR* identified several potentially significant drainage impacts that are attributable to the development of the planned land uses. The potential impacts include an increase in impervious area, an increase in surface water discharges, a decrease in groundwater recharge, contamination of receiving surface waters, an increase in groundwater withdrawals, and contamination of ground water in the Visalia area.

Development within the Land Use Element development boundary will result in an increase in residential, commercial and industrial water demands and a decrease in agricultural water demands. In order to evaluate the increase in total water supply demand, water consumption rates are needed. For the purpose of this study, a city-wide average demand of 300 gpd per capita was used. Therefore, the projected 2020 population of 165,000 people will have an average city-wide water demand of approximately 50 mgd, which is equivalent to 55,000 acre-feet per year. However, it should be noted that the demand during the warmer months will be approximately 50 percent higher than the average demand (due the irrigation of lawns and other landscaping).

As mentioned earlier, the current city-wide demand is approximately 20 mgd (20,000 acre-feet per year). Therefore, the additional demand that will result from the development of the planned land uses of the *2020 Plan* is approximately 34,000 acre-feet per year. It is assumed that all of the future additional water demand in Visalia will be satisfied with groundwater.

The *LUE EIR* estimates that there are approximately 13,000 acres of irrigated land within the City's 2020 UDB that currently are in agricultural production. If it is assumed that the net demand for irrigated crops is 3 acre-feet per year and 50 percent of the demand is satisfied with ground water, the current average agricultural demand for ground water within the 2020 UDB is approximately 20,000 acre-feet per year. This means that approximately 60 percent of the groundwater that will be needed to satisfied the water demand of future urban development in Visalia currently is used to irrigate farm lands that will be converted to urban uses with development of the planned land uses of the *2020 Plan*. Therefore, the net impact of the *2020 Plan* will be an increased ground water demand of approximately 7,000 acre-feet per year. However, the significance of this impact is reduced somewhat if the surface water that historically has been used to irrigate the farm lands the will be converted to urban uses is used to irrigate other lands that currently are irrigated to some extent with ground water. Such an application of the "displaced" surface water could reduce the expected net increase in ground water pumping (with the Kaweah River Basin).

The *LUE EIR* indicates that continued and increased groundwater extraction to satisfy the demand of future development will be expected to lower groundwater levels, especially during drought conditions, which may result in future overdraft conditions. Additionally, localized high rates of groundwater extraction can effect the production of adjacent or nearby wells. Therefore, pumping of the groundwater basin to meet future water demand may result in significant impacts to the underlying aquifer system.

c) Groundwater Pollution Potential

Conversion of agricultural land to urban uses will serve to mitigate water quality impacts related to agricultural chemical use. The *LUE EIR* stated that because DBCP usage is no longer allowed, concentration levels will decrease as the pesticide is dispersed throughout the environment. Water quality monitoring will assure drinking water supplies are maintained below state action levels. However, the potential for groundwater quality impacts from percolation of contaminated urban runoff into groundwater from surface water channels and holding basins exacerbated by decreased recharge will increase.

For the purpose of this study, it was assumed that future effluent discharges from the City's waste water treatment plant will comply with the requirements of the plant's operating permit. Therefore, increases in effluent discharges from the plant (that will occur as the planned land uses develop) are not expected to have a significant effect on the quality of receiving surface water in Mill Creek or the underlying groundwater.

3.6.3 Mitigation Measures

a) Direct Impacts

Because the potential impacts that are directly attributable to the implementation of the Master Plan are not considered significant, no mitigation measures are required.

Because stormwater runoff from the project areas typically will not be discharged to a waterway during the installation of the lines, the City does not anticipate a need to submit a *Notice of Intent* to the State Water Board to obtain coverage under the state-wide NPDES stormwater discharge General Permit for construction activities.

b) Indirect Impacts

The LUE Update EIR indicated that *2020 Plan* contained policies that are intended to mitigate the potential impacts associated with the development of the planned land uses. The LUE EIR also contained several measures to mitigate the impacts of the *2020 Plan*. These mitigation measures include strategies to enhance groundwater recharge capabilities and control the level of contaminants in storm water discharges. The *LUE EIR* also recommends that a study should be conducted to determine the safe yield of the local groundwater system, and no development should occur unless water supplies are available to adequately serve the project.

3.6.4 Residual Impacts

a) Direct Impacts

The potential direct impacts associated with implementation of the Master Plan are less than significant.

b) Indirect Impacts

The *LUE EIR* indicates that with the recommended mitigation measures, the potential drainage impacts associated with implementation of the *2020 Plan* are reduced to a level of insignificance. However, the *LUE EIR* also indicates that it cannot be determined at this time whether the impacts associated with increased groundwater pumping can be mitigated. The *LUE EIR* considered this to be a potentially significant and unavoidable impact.

3.7 BIOLOGIC RESOURCES

3.7.1 Existing Setting

a) Planning Area Overview

A description of the vegetative and wildlife communities in the Visalia area, as presented in the *LUE EIR*, is provided below.

Native Communities

Historically, the natural vegetation of the Visalia area was characterized by park-like stands of Valley Oaks *(Quercus lobata)* among vast stretches of savanna traversed by the riparian stands of the Kaweah River and its tributaries. The broad savannas were dominated by Valley Oak Woodland, Valley Needlegrass Grassland, Valley Sacaton Grassland, and Non-native Grassland natural vegetation communities. The riparian corridors of the Valley portion of the Kaweah River and its distributaries were dominated by Great Valley Mixed Riparian Forest and Great Valley Oak Riparian Forest natural vegetation communities. The range of these natural vegetation communities has been significantly reduced from historic levels as a result of conversion to urban and agricultural uses. Only remnants of these natural communities presently exist in the Central Valley. Little of the historic natural communities remain in the Visalia area, having largely been replaced with agricultural fields and urban/suburban developments. Section 4.9.2 of the LUE Update EIR contains a description of the these native vegetative communities.

Agricultural Communities

The predominant cover type likely to be impacted by overall community growth is agricultural land. The habitat value and attendant species associated with agriculture are dependent on the crop produced, cropping patterns, and availability of other life requisites (water, roosting and nesting sites, and escape cover).

Although not prime habitat, crop lands in the area provide a source of food, water, and shelter to both native and introduced wildlife species. The lack of hedgerows, shelterbelts, wind breaks, and natural vegetational buffers severely limits the habitat value of these man-made environs. In addition, agricultural practices such as herbicide and pesticide application, monocultural cropping, and intensive tillage significantly reduce the habitat value of these lands to wildlife.

Urban Communities

Three general urban wildlife categories are recognized (Mayer and Laudenslayer 1988): 1) heavily developed downtown area; 2) urban residential zone; and 3) suburban areas. The heavily developed downtown areas have very low species populations and diversity. Typically, rock dove, house sparrow and starling comprise the predominant bird fauna. House mouse, black and Norway rat are the predominant wild mammals. Reptiles and amphibians are rare.

The urban residential zone has a more dense and varied mosaic of vegetation, including shade trees, lawns, hedges, and gardens. Approximately, over 40

percent of the surface area is impervious materials. Typical species associated with this zone include scrub jay, mockingbird, house finch, raccoon, opossum, and rarely, alligator lizard, slender salamander, and western toad. In addition to the mammals and reptiles found in the urban residential area, the suburban area may occasionally have deer along the edges and striped skunk, western fence lizard, side-blotched lizard, and tree frogs.

Sensitive Species

A query of the California Natural Diversity Database (CNDDB), conducted in April, 1990 for the *LUE EIR* identified five species of concern within the area of the 7.5-minute Visalia quadrangle. These sensitive species consist of the black-shouldered kite, San Joaquin kit fox, Hoppings blister beetle, California jewelflower, and Tulare pseudobahia. A description of these species is presented in Section 4.9.2.2 of the *LUE EIR*.

Sensitive Habitats

The State Department of Fish and Game cites that during the past century nearly 95% of California's riparian habitat has been lost, resulting in a significant decrease in the number of associated fish and wildlife. Both the state legislature and the Department of Fish and Game have recognized and are giving priority to maintaining and improving the state's remaining riparian habitat. The Department's policy on riparian habitat is that development projects should not reduce either the quality or quantity of the riparian habitat.

Most of the remaining stands of large, old trees, and much of the undisturbed or revegetated riparian corridors, are found in northeast Visalia, west Visalia, and along the St. John's River. There are areas along all the waterways that flow through the city in which riparian vegetation exists, or could be reintroduced. In places where creeks and roadways intersect and along Highway 198 or other major roads, native trees and those planted by civic groups serve as landmarks, creating topographic relief and providing visual interest.

Habitat surveys conducted in conjunction with the West and Northeast Visalia Specific Plans identified several sites in the Visalia that support significant natural habitats. A description of these habitats is contained in Section 4.9.2.2 of the *LUE EIR*.

b) Master Plan Project Areas

General

The Master Plan improvements generally will be installed either in lands that are in intensive agricultural production or in an existing roadway. Therefore, it is likely that many of the project areas do not provide viable habitat for most plant and wildlife species, particularly sensitive species.

Shirk-Riggin Trunk Line

Most of the area along the proposed alignment of the Riggin line is farm land. However, the alignment crosses through the southern portion of the water storage basin located on the north side of Riggin at Linwood. Because non-

cultivated vegatation is established in the basin and the ground is not frequently tilled, it potentially could seve as foraging or denning habitat for kit fox or other sensitive wildlife species.

As mentioned in Section 3.2, there are a total of approximately 50 mature valley oak trees between Shirk and Riggin (see Figure 2-3). Most of these trees exist along a branch of Modoc Ditch on the south side of Riggin between Demaree and Linwood, including a cluster of 25 trees, located approximately 800 feet east of Linwood. It should be noted that the City's *Conservation, Open Space, Recreation, and Park Elemnt*, adopted in 1989, characterises these stands of oaks as "signficant tree groupings". No other significant habitat areas are identifed along Riggin east of Shirk in the COSRP Element. The area west of Shirk is considered potential habitat for the San Joaquin Kit Fox.

3.7.2 Project Impacts

a) Direct Impacts

General

Because most of the Master Plan improvements will be installed in farm land or roadways, the Master Plan generally is not expected to have a significant direct impact on biological resources in the Visalia area. However, the impact of future projects will be evaluated on a project-by-project basis in subsequent environmental studies.

Shirk-Riggin Trunk Line

Because the City expects that the Shirk Avenue portion of the line will be installed in the roadway within the existing right-of-way, the installation should not have a significant adverse direct impact on plant or wildlife species in the construction area. Because, most of the Riggin line will be installed in farm land that is not considered viable habitat for sensitive species, the installation generally should not impact these species.

However, as mentioned above, the water storage basin west of Demaree potentially could serve as foraging or denning habitat for kit fox or other sensitive wildlife species. Therefore, the City intends to conduct a "pre-construction" survey (in accordance with Department of Fish and Game guidelines) of the southern portion of the basin to determine if it is actively used by sensitive species.

With respect to the oak trees along Riggin, the planned alignment of the sewer line indicates that the line generally will be outside of the drip line of these trees. Therefore, the installation of the pipeline should not have a significant impact on the oaks. The most significant encroachment of the pipeline within the drip lines of the trees will occur in the group of trees on the south side of Riggin immediately west of Demaree where it appears that the sewer line will be approximately 20 feet within the drip line of one tree and on the fringe of the drip lines of two other trees.

Although the future widening of Riggin is not part of the sewer line project, it should be noted that the installation of the sewer line will, to a large degree, establish the future alignment of Riggin. As discussed in Section 2.7,

much of the planned right-of-way alignment for Riggin has been shifted north (of the existing alignment) to avoid the oak trees along the south side of Riggin when the roadway is widened in the future.

Based on the preliminary future Riggin alignment, it appears that the five oaks west of Linwood and the cluster of 25 trees immediately east of Linwood along the south side of Riggin will be outside of the future curb line and may not have to be removed when the roadway is widened. Between Linwood and Demaree, it appears that there are ten oak trees that will be within the paved section of Riggin after the roadway is widened. Eight of these trees appear to near the centerline of the future roadway, and it may be possible to incorporate some of them into the median of the roadway. The trees that can be successfully incorporated into the median may not have to be removed when the roadway is widened. It appears that the remaining two trees, one located 1,200 feet east of Linwood on the north side of Riggin and one located 250 feet west of Demaree on the north side of Riggin, cannot be incorporated into the median and it is likely that they will have to be removed when the roadway is widened.

There are ten oak trees between Demaree and Mooney are on the south side of Riggin. The future Riggin alignment has been shifted north in the vicinity of these trees and it appears that they will be outside of the future curb line and may not have to be removed when the roadway is widened.

It should be noted that the impact of the road widening project on the oak trees will be addressed in more detail in a future environmental study after the roadway construction plans are finalized.

b) Indirect Impacts

The indirect and cumulative effects associated with implementation of the Master Plan consists of the potential impacts that are attributed to the implementation of the *2020 Plan* in the *LUE EIR*. As described in Section 4.9.3 of the *LUE EIR*, these potential impacts include the loss of agricultural habitat (with the conversion of farm lands to urban uses, loss of habitat for San Joaquin kit fox and other sensitive species, and loss of native vegetation communities.

3.7.3 Mitigation Measures

a) Direct Impacts

General

If it appears that future projects potentially will impact wildlife and plant species, mitigation measures will be identified in subsequent studies.

Shirk-Riggin Trunk Line

If the results of the "pre-construction" survey of the water storage basin indicate that the basin provides sensitive species habitat that would be disturbed by the installation of the line, the City should consultant with the Department of Fish and Game to establish a plan for installing the line without adversely effecting the species.

Although it appears that less that five oak trees potentially may be effected to some degree by the installation of the sewer line, the City should endeavor to minimize the number of trees that will be disturbed by the installation process. In the event that any oak trees are severely damaged during the installation of the line, the City should plant a minimum of three oak trees as mitigation for each tree that is damaged.

Because the additional right-of-way that the City intends to acquire for the installation of the line will establish the future alignment of Riggin, the City also will attempt to minimize the number of oak trees that will be effected by the future widening of the roadway. This includes placing as many trees as possible either outside of the future curb line or within the future roadway median such that a minimum number of trees will have to be removed when the roadway is widened.

b) Indirect Impacts

The *LUE EIR* contains nine mitigation measures that are intended to reduce the significance of the potential impacts on biological resources that are attributed to the development of the planned land uses of the *2020 Plan*. These mitigation measures are identified in Section 4.9.4.1 of the *LUE EIR*.

3.7.4 Residual Impacts

a) Direct Impacts

The potential impacts directly associated with the Master Plan will be reduced to a level of insignificance with the implementation of the recommended mitigation measures.

b) Indirect Impacts

The *LUE EIR* states that implementation of the *2020 Plan* will result in significant impacts on biological resources that cannot be mitigated to levels of insignificance. The impacts that cannot be adequately mitigated include the loss of wildlife foraging habitat (associated with the conversion of agricultural lands), and the encroachment of urban uses upon existing riparian habitats in the Visalia area.

3.8 NOISE

3.8.1 Existing Setting

a) Planning Area Overview

The major sources of noise in Visalia include major roadways, railroads, the Visalia Municipal Airport, and various industrial and commercial facilities. Noise measurements collected for the 1986 update of the City's Noise Element and *LUE EIR*.

The *LUE EIR* concluded that the noise measurements indicate that the background noise levels near "noise-sensitive" land uses typically are in the range of 45 to 55 dB L_{dn} (Day-Night Average Level). Near major roadways, the noise levels (at a typical residential setback) are in the range of 55 to 65 db L_{dn}. The maximum noise levels generally were caused by vehicles.

b) Project Areas

The Master Plan project areas typically are dominated by agricultural uses, which generally are not considered "noise-sensitive" receptors. In the case of the Shirk-Riggin line project area, the five existing residences are considered potential "noise-sensitive" receptors.

3.8.2 Impacts

a) Direct Impacts

The installation of Master Plan improvements will result in a short-term rise in the ambient noise level at the project sites. These increases in noise level will be due to the operation of heavy equipment during the installation process. The noise-generating equipment generally will be operated during day on weekdays. After they have been installed, the operation of the Master Plan improvements is not expected to increase the ambient noise levels in the vicinity of the project site.

Because the construction-related noise will be generated on a short-term basis during the day on weekdays, the installation of Master Plan improvements is not expected to have a significant impact on the land uses in the vicinity of the installation projects.

b) Indirect Impacts

The *LUE EIR* indicates that the development of the planned land uses of the *2020 Plan* will result in significant increases in traffic noise levels on the major roadways in the community. The *EIR* also indicates that the *2020 Plan* can result in potential noise-related land use conflicts. The proposed "community center" commercial areas and Visalia Parkway are identified as new noise generators that could effect existing noise-sensitive uses.

3.8.3 Mitigation Measures

a) Direct Impacts

Because implementation of the Master Plan is not expected to result in any significant direct noise impacts, no mitigation measures are required.

b) Indirect Impacts

To mitigate the potentially significant increases in community noise levels that are attributed to the development of the planned land uses of the *2020 Plan*, the *LUE EIR* set out four noise-related mitigation measures. These measures are presented in Section 4.5.4 of the *LUE EIR*.

3.8.4 Residual Impacts

a) Direct Impacts

The potential impacts directly associated with the implementation of the Master Plan are less than significant.

b) Indirect Impacts

The *LUE EIR* states "noise impacts which cannot be mitigated are those which will result from increases in overall ambient noise levels in the community as the population of the Visalia area continues to increase." Therefore, implementation of the recommended mitigation measures is not expected to reduce the potential impacts attributable to the development of the planned land uses to a level of less than significant.

3.9 AESTHETICS/VISUAL RESOURCES

3.9.1 Existing Setting

a) Planning Area Overview

The *2020 Plan* and the *LUE EIR* indicate that Visalia is a community of substantial scenic value and numerous aesthetic resources of importance. These documents identify the following as significant resources:

- Agricultural and rural lands;
- Valley Oak trees;
- Scenic corridors (including west SR 198, east SR198, SR 63, Riggin Avenue, Walnut Avenue, Avenue 272, Shirk Road, Akers Road, Demaree Road, Ben Maddox Way and McAuliff Road);
- The original "urban core" of the community, with its historic homes and significant architectural character; and
- The views of the Sierra Nevada Mountains to the east.

b) Project Areas

As mentioned in Section 3.2, the Master Plan improvements generally will be installed in rural areas dominated by agricultural uses or developing areas.

3.9.2 Impacts

a) Direct Impacts

Because the Master Plan improvements generally will be installed below ground, implementation of the Master Plan is not expected to have a significant direct impact on the visual resources in and around the project areas.

b) Indirect Impacts

The *LUE EIR* indicates that implementation of the *2020 Plan* will result in several potentially significant impacts on the visual resources in the Visalia area. The identified significant impacts include a decrease of agricultural and rural lands, particularly along designated scenic corridors; and a loss of views of major oak tree stands lining significant watercourses and scenic corridors that are seen through agricultural parcels.

The *LUE EIR* states that the impacts associated with development of the planned land uses will decrease the field of vision, diminish the existing community form and unique small-town character, and decrease the scenic variety of the natural features within the community.

3.9.3 Mitigation Measures

a) Direct Impacts

Because there are no identified significant impacts directly associated with implementation of the Master Plan, no mitigation measures are required.

b) Indirect Impacts

The *LUE EIR* indicates that the *2020 Plan* contains a number of policies that are intended to help mitigate the potential impacts associated with development of the planned land uses of the *Plan*. The *LUE EIR* also recommends that a series of mitigation measures are implemented to reduce the significance of the *Plan's* impacts. Refer to Section 4.20.4 of the *LUE EIR* for the recommended mitigation measures.

3.9.4 Residual Impacts

a) Direct Impacts

The potential impacts directly associated with the implementation of the Master Plan are less than significant.

b) Indirect Impacts

The *LUE EIR* states that the conversion of scenic views of agricultural open space to urban landscapes cannot be mitigated to a level of insignificance.

3.10 PUBLIC SERVICES

3.10.1 Existing Setting

Public services consist of the services that public agencies and utility service companies provide, such as police protection, sewer service and electrical service. The City of Visalia provides many of the public services to the community. The service area boundaries for the City's services generally coincide with the city limits of Visalia.

Sections 4.13 and 4.14 of the *LUE EIR* contain a description of the Fire and Police protection services that the City currently provide. Electrical and natural gas utility services in the Visalia area are described in Section 4.17 of the *LUE EIR*. Solid waste disposal in Visalia is described in Section 4.12 of the *LUE EIR*.

The City's wastewater treatment plant is described in Section 4.11 of the *LUE EIR*. The 12.5 mgd plant currently receives average flows of 9 to 10 mgd. Treated effluent from the plant is disposed of in on-site percolation ponds during the fall and winter. During the spring and summer, effluent is discharged to Mill Creek. The City recently started that process of expanding the treatment plant from a 12.5 mgd facility to a 20 mgd facility. This expansion of the plant is expected to accommodate the wastewater treatment needs of the City through the year 2000, when the service population is projected to reach nearly 100,000.

Sludge from the City's treatment plant typically is disposed of by land application on agricultural lands in the vicinity of the plant. Tulare County operates the solid waste landfills that serve Visalia and other communities in the County, and the County does not accept sludge at their landfills.

3.10.2 Impacts

a) Direct Impacts

Installation of the Master Plan improvements is not expected to have a significant direct impact on the ability of the City of Visalia (and other providers) to deliver public services.

The City plans to totally fund the debt service and capital costs of the planned improvements with a combination of developer impact fees and monthly rate payments. Therefore, implementation of the master plan should not create any significant budgetary problems for the City.

Because sewer line projects generally generate a minimal amount of solid waste, the installation of the Master Plan lines is not expected to have a significant impact on the operation of the County's landfills.

b) Indirect Impacts

The development of the *2020 Plan* land uses potentially could have a significant impact on local public service capabilities. The *LUE EIR* documents the potential public service impacts associated with implementation of the *2020 Plan*. These impacts include sewage flows that exceed the capacities of the City's existing sewer collection lines; a decrease in the effective life of the County's landfills; demands that exceed the service capacities of the City's police and fire departments; and student enrollments that exceed the current capacity of the local school system.

3.10.3 Mitigation Measures

a) Direct Impacts

Because implementation of the Master Plan is not expected to result in any significant direct public service impacts, no mitigation measures are required.

b) Indirect Impacts

Mitigation measures for the significant potential public service impacts associated with implementation of the *2020 Plan* are described in the *LUE EIR*. In general, the mitigation program outlined to reduce the impacts to less than significant levels consists of increasing public agency personnel resources, constructing new public service facilities, and meeting increased service demands incrementally as they develop.

3.10.4 Residual Impacts

a) Direct Impacts

The potential direct impacts associated with implementation of the Master Plan are less than significant.

b) Indirect Impacts

The *LUE EIR* indicates that, if adequate funding programs are established by the affected public agencies and the recommended mitigation measures are implemented, there will be no significant residual public service impacts attributable to the *2020 Plan*. If, however, adequate funding is not available to underwrite the costs associated with expanded public service delivery capacities, the significant impacts of the *2020 Plan* cannot be mitigated to a level of insignificance.

3.11 CULTURAL/HISTORICAL RESOURCES

3.11.1 Existing Setting

a) Planning Area Overview

Section 4.21.2.1 of the *LUE EIR* provides a discussion of Visalia's archaeological and historic background. Section 4.21.2.2 indicates that due to the long history of use and land disturbance, first from agricultural activities, and then from urban development, it is unlikely that there are any undisturbed significant archeological sites in the Visalia area. There are, however, residual sites containing artifacts and tool remnants scattered throughout Tulare County, reflecting the occupancy of the area by Native Americans throughout prehistoric and historic time.

Based upon research conducted during the preparation of the *LUE EIR*, it was determined that a total of eight recorded archaeological sites exist within a two-to-three mile radius of the City's Urban Area Boundary (UAB) but that no

sites have been recorded within the UAB. That does not necessarily mean that there are no potentially significant archaeological sites within the UAB, since little archaeological survey work actually has been performed in the area.

There are a number of structures of historic and architectural significance located throughout the city, including several buildings that are listed in the National Register of Historic Places. Many of these historic structures are located within the City's Historic Preservation District in central Visalia.

b) Project Areas

Many of the Master Plan improvements will be installed in areas that have been in agricultural production for many years. The balance of the improvements generally will be installed in existing paved roadways. Therefore, as mentioned above, it is unlikely that any undisturbed significant cultural resources exist near the ground surface in and around the project areas.

With respect to historic structures, the church building located at the northwest corner of Riggin and Demaree is considered a significant local historical resource. This is the only known historic structure in the vicinity of the Shirk-Riggin trunk line project. The Avenue 276 trunk line project area and the area of other future Master Plan improvement projects have not been surveyed for historic structures.

3.11.2 Project Impacts

a) Direct Impacts

Because it is unlikely that there are any undisturbed cultural resources near the surface of the site, the installation of Master Plan improvements is not expected to have significant cultural resource impacts.

Installation of the Shirk-Riggin trunk line should not have an adverse impact on the north side of the roadway will be needed to install the line. It should be noted that the planned future widening of Riggin will require approximately eight to ten feet of additional right-of-way on the north side of the roadway. The structure is setback more than twenty feet from the future right-of-way line.

b) Indirect Impacts

The *LUE EIR* indicates that development of the planned land uses of the *2020 Plan* could have potentially significant impacts on cultural and historic resources in the Visalia area if construction activities for new development disturbed a previously unknown site of artifacts.

3.11.3 Mitigation Measures

a) Direct Impacts

No specific mitigation measures are recommended at this time. However, should any cultural resources be uncovered during the construction phase of the project, all activity in the vicinity of the "find" should be stopped and the steps described in Appendix J of the *CEQA Guidelines* should be followed.

b) Indirect Impacts

In the interest of avoiding potentially significant impacts to cultural resources as The *2020 Plan* land uses are developed,

The *LUE EIR* refers to policies in the *2020 Plan* that mitigate potentially significant impacts. The *LUE EIR* also recommends two mitigation measures to reduce the significance of the identified potentially significant impacts.

3.11.4 Residual Impacts

a) Direct Impacts

No significant residual impacts are expected.

b) Indirect Impacts

All potential impacts can be mitigated to a less-than-significant level.

4.0 PROJECT ALTERNATIVES

The *CEQA Guidelines* state that a draft EIR must describe a range of reasonable alternatives to the project which could feasibly attain the basic objectives of the project, and evaluate the comparative merits of the alternatives.

As discussed in Section 2.3, the primary objective of the project is to adopt a sewer master plan for Visalia that identifies the improvements needed to accommodate the planned land uses of the City's recently updated Land Use Element. The secondary objective of the project is implementation of the master plan, specifically installation of the improvements that are needed to serve the areas that are designated for development during the initial "growth phase" of the LUE (1993-2000). Therefore, alternatives to the project also have to provide a long-range plan for expanding the existing sewer system to serve future development.

4.1 PROJECT ALTERNATIVES

There are two identified alternatives to the proposed project. Each of the alternatives involves the adoption and implementation of a 50-year master plan. These alternatives seek to avoid the environmental impacts associated with implementation of the proposed Master Plan by modifying the alignment or timing of specific improvement projects. A discussion of these alternatives, as well as a "no-project" alternative, as required by *CEQA*, is presented below.

Alternative No. 1

Alternative No. 1 consists of adopting and implementing a 50-year master plan that has the same improvements as the proposed Master Plan. However, the planned Riggin line would be installed within the existing roadway easement/right-of-way and minimal additional right-of-way would be required to install the line.

The potential benefit of this approach is that the installation process would allow approximately nine acres of row crops and grape vines and approximately 250 walnut trees to remain in agricultural production. It should be recognized, however, that the City intends to allow farmers to re-plant crops and trees within the new right-of-way that the City will acquire (for the purpose of installing the sewer line) after that line is installed. Furthermore, the City expects this farm land ultimately will to be converted to urban uses as the planned land uses of the *2020 Plan* are developed and Riggin is widened. As discussed in Section 3.2, the cumulative "loss of farm land" impacts associated with the implementation of the *2020 Plan* are evaluated in the *LUE EIR*.

It should also be recognized that with this alternative it is likely that both travel lanes in Riggin would have to be closed to accommodate the planned open trenching and stockpiling operations, and the County typically does not allow both lanes of a major roadway to be closed. Therefore, this alternative is considered infeasible with the planned installation method.

It should be noted that with extensive shoring measures and temporarily stockpiling the excavated material either partially or entirely out of the existing easement, it may be feasible to install the pipeline within the

easement and leave one travel lane open during the day (during the night both travel lanes would have to be open). However, the cost of this approach would be significantly higher than cost of the proposed installation method.

Otherwise, this alternative generally would be expected to have the same direct environmental impacts as the proposed project. With respect to "indirect" environmental impacts, the proposed project and Alternative No. 1 both will, to some degree, facilitate development of the planned land uses of the *2020 Plan*. Therefore, the potential significant cumulative impacts associated with implementation of the *2020 Plan* can be indirectly attributed to both the proposed project and the alternative project.

Alternative No. 2

Alternative No. 2 consists of adopting and implementing a 50-year master plan that has the same improvements as the proposed Master Plan with one exception. The alternative project would delay the installation of the planned Avenue 276 trunk line until the third growth period of the *2020 Plan* (2011-2020) by installing a new relief line in Whitendale between Akers and Santa Fe. The Whitendale would be installed prior to the year 2000 to serve the area along Caldwell Avenue east of Santa Fe that is designated for development during the first and second growth periods of the *2020 Plan*. It should be noted that based on preliminary planning studies, it appears that the Whitendale line cannot serve all of the area designated for development east of Road 148, which means that the Avenue 276 line (or an equivalent project) will be needed during the third growth period.

The benefit of the Whitendale line is that it would eliminate some of the pressure to prematurely develop land that potentially will exist if the Avenue 276 line is installed during the initial growth period of the *2020 Plan*. As discussed in Section 3.2, development pressure may exist because the Avenue 276 line could readily serve lands south of Avenue 272 that are outside of the 2020 UDB or lands along the Avenue 276 alignment that are designated for development during the second and third growth periods of the *2020 Plan*.

On the other hand, because the Whitendale line would be installed through an area that is fully developed, the construction will be significantly more disruptive than the installation of a new line in the Avenue 276 alignment. Also, because existing improvements in Whitendale will have to removed and replaced and extensive traffic control measures will have to provided, the cost-per-acre-served will be significantly higher for the Whitendale line than the Avenue 276 line.

As mentioned in the discussion of Alternative No. 1, the proposed project and Alternative No. 2 both will, to some degree, facilitate development of the planned land uses of the *2020 Plan*. Therefore, the potential significant cumulative impacts associated with implementation of the *2020 Plan* can be attributed to both the proposed project and the alternative project (as "indirect" impacts).

"No Project" Alternative

With the "no project" alternative, the proposed Master Plan would not be adopted and the recommended improvements would not be constructed. Without a

master plan, it is conceivable that the City would impose a moratorium on development after the limited unused capacity currently available in the existing trunk lines is utilized. However, a more likely scenario is that the improvements needed to serve future development would be planned and installed on a project-by-project basis, in much the same way that sewer improvement projects have been handled in the past.

As Visalia grows, the risks associated with future development without a city-wide comprehensive master plan increase. Trunk lines that are expected to serve future development through the year 2020, may be undersized to accommodate all of the flows that land uses will generate. Without a long-range capital improvement program that establishes the timing of improvements (to serve developing areas during each growth period), pressures to prematurely develop areas in close proximity to existing lines may occur. Furthermore, if long-range improvement projects are not identified (with cost estimates), it may be difficult for the City to establish a rate/fee schedule that will consistently fund the total cost of individual projects.

In the event that "no project" alternative results in a partial or full moratorium on future development, the direct impacts attributed to the implementation of the Master Plan would be eliminated or substantially reduced. In addition, the indirect and cumulative impacts associated with development of the planned land uses of the *2020 Plan* would be significantly reduced, if not avoided entirely. However, a moratorium also would potentially result in a tightening of the local housing market, an increase in housing costs, and a reduction in economic growth and employment opportunities.

In the event that the "no project" alternative results in the installation of improvements on a project-by-project basis, the individual projects would have the same direct impacts as the proposed Master Plan projects. The individual projects also would have many of the same "indirect" impacts as the Master Plan projects.

4.2 "ENVIRONMENTALLY SUPERIOR" ALTERNATIVE

The *CEQA Guidelines* require that an EIR identify the "environmentally superior" alternative. Of the alternatives considered, the environmentally superior alternative is the "No Project" Alternative with a moratorium on development because, as discussed above, the direct and indirect impacts associated with the implementation of the Master Plan would be largely eliminated.

Of the remaining alternatives, the direct impacts associated with the installation of improvements vary somewhat depending on whether the improvements are installed in rural areas or developed areas, within existing right-of-way, or through agricultural lands. The indirect and cumulative impacts associated with the remaining alternatives are comparable. However, based on the considerations mentioned above, the remaining alternatives are ranked for their environmental superiority as follows:

1) The proposed Master Plan.

2) The "No Project" Alternative without a development moratorium.

3) Alternative No. 2 - A master plan with a Whitendale relief line.

It should be noted that Alternative No. 1, a master plan with the Riggen line installed within the existing right-of-way, is considered infeasible with conventional trenching methods. With respect to the use of extensive shoring methods to install the line, the limited benefit that this alternative would provide does not outweigh the additional cost associated with shoring.

5.0 CONSEQUENCES OF PROJECT IMPLEMENTATION

5.1 SIGNIFICANT ENVIRONMENTAL IMPACTS WHICH CANNOT BE AVOIDED

Direct Impacts

The potential direct environmental impacts of the project and recommended mitigation measures are identified in Section 3.0 of this document. With the implementation of the recommended mitigation measures, all of the identified direct impacts will be reduced to a level of insignificance.

Indirect Impacts

The cumulative impacts attributable to the development of the planned land uses of the *2020 Plan* and recommended mitigation measures are identified in Section 4.0 of the *LUE EIR*. These *2020 Plan* impacts, which are considered "indirect" impacts of the Master Plan, are referenced in Section 3.0 of this document, as are the *LUE EIR* mitigation measures. The *LUE EIR* indicates that with the implementation of the mitigation measures, many of the *2020 Plan* cumulative impacts are reduced to a level of insignificance.

However, other potential cumulative *2020 Plan* impacts can not be mitigated to a level of insignificance. These unavoidable and significant impacts as follows:

- Loss of approximately 13,000 acres of farm land to the development of urban land uses.
- Creation of conflicts between agricultural activities and adjacent urban land uses.
- Increase in vehicle traffic and congestion.
- Generation of substantial levels of mobile source air pollutant emissions and a corresponding decrease in local air quality.
- Increase in ground water pumping that may contribute to a long-term overdraft condition.
- Loss of habitat for various wildlife species by urban development.
- Increase in ambient noise levels which may affect potentially sensitive land uses.

5.2 SHORT-TERM VS LONG-TERM PRODUCTIVITY

The proposed project has the inherent purpose of emphasizing the long-term productivity of the Master Plan service area, as opposed to emphasis on short-term usages. The long-term value of agricultural production in portions of the service area will be replaced with the equally long-term productivity of urban uses. The intensification of employment generation and economic return from such uses, in comparison to agricultural operations, represents an economic benefit to the community and surrounding region.

The community growth permitted by the updated Land Use Element, which would guide the standards for such growth accommodated by the proposed project, includes concentration of urban development in a compact and contiguous fashion. This policy framework would discourage the premature displacement of agriculture in favor of other uses.

5.3 GROWTH INDUCING IMPACT OF THE PROJECT

As discussed earlier in this EIR, the proposed adoption of the Master Plan will accommodate urban growth within the development boundaries of the *2020 Plan*. It can be argued that adoption and implementation of the Master Plan is not, by itself, growth-inducing. A comprehensive, long-range sewer master plan is one component, among many, of the City's planning and development policies that promote orderly growth and development.

However, as discussed in Section 3.2.2, some Master Plan improvements potentially may create pressures to prematurely develop lands within the service area of the improvements. The premature development to lands can be avoided if the mitigation measures presented in Section 3.2.3 are implemented.

It should be recognized that much of the future growth accounted for in the *2020 Plan* could very well occur without a sewer master plan. Therefore, the proposed Master Plan can be correctly referred to as growth-accommodating, rather than growth-inducing.

5.4 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Direct Impacts

As discussed in Section 5.1, all of the potential direct environmental impacts of the project identified in Section 3.0 of this document will be reduced to a level of insignificance with the implementation of the mitigation measures.

Indirect Impacts

Several of the "indirect" impacts described in Section 5.1 as unavoidable consequences of the proposed project theoretically could be reversed, if conditions in the community changed, allowing for the restoration of the pre-project conditions. Other environmental consequences of the plan, however, should be regarded as practically irreversible. The "indirect" impacts that potentially are irreversible include the loss of agricultural land, the loss of wildlife habitat, an increase in noise levels, and a change in scenic resources.

6.0 SOURCES CONSULTED

Documents

1) City of Visalia (Boyle Engineering Corp.); *Draft Sanitary Sewer Master Plan*; March, 1993.

2) City of Visalia (McClelland Consultants, Inc.); *Final Environmental Impact Report for the Visalia General Plan Land Use Element Update*; July, 1991.

3) City of Visalia (McClelland Consultants, Inc.); *Draft Environmental Impact Report for the Visalia General Plan Land Use Element Update*; September, 1990.

4) City of Visalia; *Land Use Element Update to the Visalia General Plan*; March, 1991.

5) City of Visalia (Quad Consultants, Inc.); *Final Environmental Impact Report for the Expansion of Municipal Wastewater Treatment Facilities*; October, 1992.

6) City of Visalia; *Conservation, Open Space, Recreation, and Parks Element of the Visalia General Plan*; June, 1989.

7) State of California; Office of Planning and Research; *State CEQA Guidelines*; as currently amended.

Individuals and Organizations

1) George Weddle, City of Visalia, Design Engineer

2) Britt Fussel, City of Visalia, Public Works Director

3) Phyllis Coring, City of Visalia, Assistant Community Development Director

4) Lewis Nelson, City of Visalia, Utility Engineer

5) John Biane, City of Visalia, Real Estate Manager

6) California Water Service Company personnel

7.0 AUTHORS OF THE EIR

This EIR was prepared by the following City of Visalia staff:

- John Dutton, City Engineer
- Richard Luther, Redevelopment Project Manager
- Walter Bricker, Civil Engineer
- Chriss Phipps, Computer Technician

APPENDICES

A) Notice of Preparation and Responses

B) Notice of Preparation Addendum and Responses

APPENDIX A

NOTICE OF PREPARATION (DECEMBER, 1992)

&

RESPONSES TO THE CITY

Richard

NOTICE OF PREPARATION

TO: Visalia Redevelopment Agency
900 W. Oak Street
Visalia, CA 93291

FROM: City of Visalia
900 W. Oak Street
Visalia, CA 93291
(209) 738-3414

SUBJECT: Notice of Preparation of a Draft Environmental Impact Report

PROJECT TITLE: Sewer System Master Plan

The City of Visalia (Engineering Department) will be the Lead Agency and will prepare an Environmental Impact Report for the Visalia Sewer System Master Plan. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the probable environmental effects are contained in the attached materials. A copy of the Initial Study is attached.

Due to the time limits mandated by state law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your responses to Richard Luther at the address and phone number shown above. We will need the name for a contact person in our agency.

DATE: 12/23/92 Signature Richard Luther
Project Manager

Attachments:

(a) Initial Study
(b) Environmental Checklist

C:EIRS08.

CITY OF VISALIA - INITIAL STUDY
SEWER SYSTEM MASTER PLAN

Project Location:

The City of Visalia, located in Tulare County, is situated in the southeastern portion of the San Joaquin Valley (Figure 1). The City is approximately 40 miles southeast of the City of Fresno and approximately 90 miles northwest of the City of Bakersfield. State Route 99, passing at the western edge of the City, and State Route 198, which bisects the City west to east, are the major access routes to Visalia.

Background:

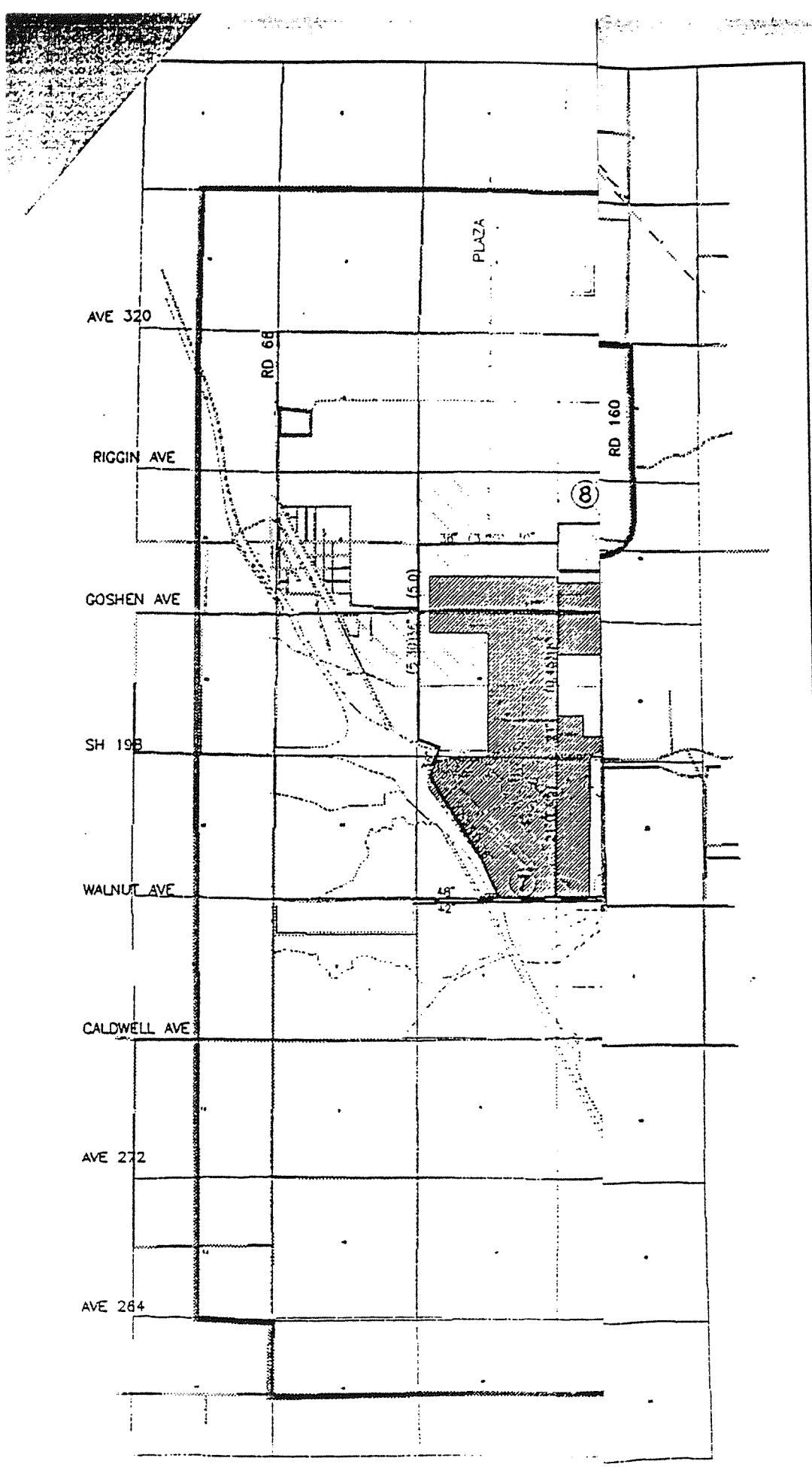
The Sewer System Master Plan considers numerous staged growth boundaries (as identified under the City's General Plan Land Use Element update, 1991) for analyzing the effect of connecting sewer services from anticipated future development areas on the existing sanitary sewer system. The City does not currently have a master plan for provision of sanitary sewer improvements and the General Plan Land Use Element update recommended the development of a Wastewater Collection Master Plan to complement urban development strategies, and for accommodating additional wastewater flows generated from new development in the community. This document will serve as a focused EIR and builds on the Land Use Element EIR (SCH #90020160) which was certified in August 1991 as part of the City's 30-year growth plan update. The EIR will concentrate on issues or impacts related to implementation of the Sewer System Master Plan which not covered under the previous EIR.

Project Description:

The study area for the Sewer System Master Plan, shown in Figure 2, includes the existing City and area planned for development through the year 2020. In order to analyze the existing sewer system and future improvements, a model of the main trunk and subtrunk lines (10 inch and critical 8 inch lines) was developed. This model was used to simulate the routing of sewer flows from tributary areas to the treatment plant. For computer modeling and management purposes, the sewer system was divided into eight smaller, more manageable subsystems, also known as service areas. The City's eight service areas are shown on Figure 2. The Sewer System Master Plan has been organized into the following major topic areas:

1.	Introduction	Identifies the study area, existing and projected land use intensity, and population projection
2.	Design Standards/Analysis Criteria	Characteristics of wastewater flows, flow metering, flow coefficients, design capabilities and velocities.
3.	Collection System Analysis	Identification of service areas, analysis process, pump stations.


SACRAMENTO
SAN FRANCISCO
FRESNO
VISALIA
BAKERSFIELD
LOS ANGELES
PACIFIC OCEAN



N

NOT TO SCALE

Legend

EXISTING PIPE SIZE (IN)

EXCESS AVERAGE CAPACITY (MGD)

18" (1.50)

EXISTING PIPE

SERVICE AREA BOUNDARY

(9) SERVICE AREA NUMBER

City of Visalia

FIGURE 2

4.	System Deficiencies	Identification of deficiencies based on service areas.
5.	Expansion Improvements	Identification of recommended improvements based on service areas.
6.	Capital Improvement Program	Identification of improvement costs based on recommending service area improvements.
7.	Financing Alternatives and Connection Fees	Identification of alternative methods for financing sewer improvements.
8.	Appendices	Detailed information regarding engineering data used for study area analysis.

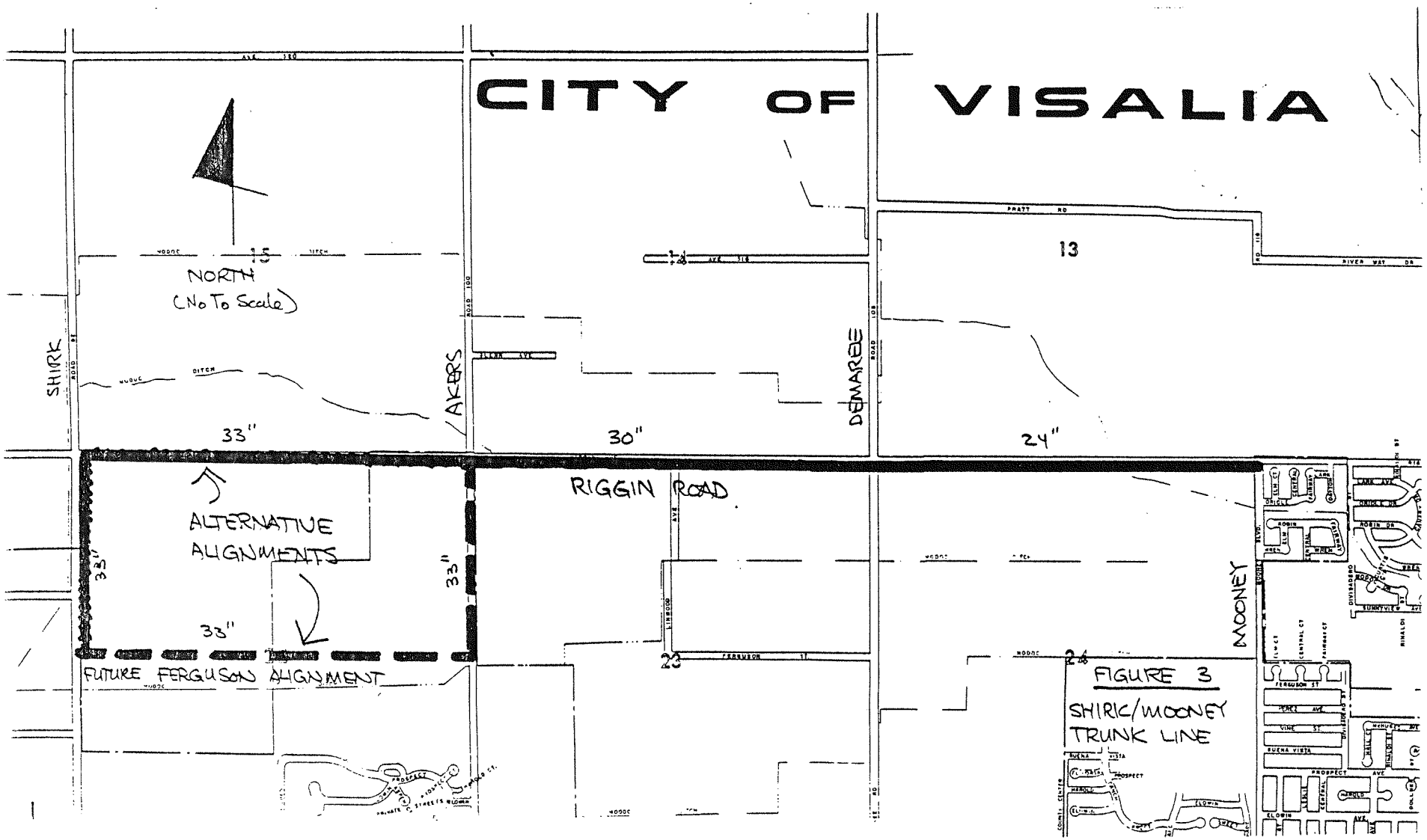
In addition to adoption of the Sewer System Master Plan, the EIR will address a specific improvement project that is recommended in the Master Plan for the installation of new major trunk line on Riggin Avenue from Shirk Road to Mooney Boulevard (Figure 3). The proposed line will range from 24 to 33 inches in diameter and is designed to serve the newly developing area in the northwest quadrant of the City. Approximately 5,200 feet of the new trunk line (33 inch diameter - between Shirk and Akers) is proposed to traverse undeveloped land (currently in agriculture) adjacent to right-of-way. The remaining trunk line will be installed within street right-of-way.

Environmental Setting:

The City of Visalia lies within the southeasterly portion of the San Joaquin Valley. The City is situated upon the alluvial fan created by runoff deposition from the Sierra Nevada Mountain Range which rises approximately 20 miles to the east. Because of this deposition process, the planning area has a flat topography with a gentle slope to the southwest. Because of soil and climatic conditions, almost all of the undeveloped land within the City's planning area is used for agricultural purposes. Visalia's Mediterranean climate is characterized by dry summers and wet winters with mild year-round temperatures. While significant portions of non-urbanized lands have been disturbed by agricultural activities, the Visalia planning area contains remnants of the original Great Valley Valley Oak Woodlands and riparian forests.

Potential Impacts (potential areas for mitigation):

The Environmental Checklist Form which follows this Section of the Initial Study identifies several areas for potential environmental impacts. However, the purpose of the Checklist is to identify such impact areas and does not provide a level of information necessary to make any determination as to potential mitigation measures. As such, the following general topics should be addressed in more detail through the CEQA review process:


CITY OF VISALIA
NORTH
(No To Scale)
SHIRK
AKERS
DEMARREE
PRATT RD
RIVER WAY DR
13
33"
30"
24"
RIGGIN ROAD
ALTERNATIVE ALIGNMENTS
33"
33"
33"
FUTURE FERGUSON ALIGNMENT
MOONEY
23
24
FERGUSON ST
FIGURE 3
SHIRIC/MOONEY
TRUNK LINE

1. Soil disruption and compaction during construction of sewer improvements.

2. Impacts to natural plant and animal systems through the construction of sewer improvements.

3. Impact to the phasing and intensity of urbanization through the installation of sewer facilities through undeveloped areas.

4. Impacts to vehicular, bicycle, and pedestrian safety due to sewer construction projects (especially within existing street right-of-way).

5. Impacts associated with increased maintenance costs for additional sewer lines.

6. Impacts to unrecorded archaeological sites and objects due to sewer construction projects through undeveloped areas.

It should be noted that impacts relating to increased flows and discharges at the treatment plant have been addressed through a separate Environmental Impact Report certified for the treatment plant expansion project (SCH #91122060).

Consistency with Adopted Zoning, plans, and Other Applicable Land Use Controls:

The Sewer System Master Plan is in response to needs identified in the City General Plan Land Use Element as adopted in 1991. The Sewer System Master Plan is an infrastructure policy document to be adopted by the City in order to provide for adequate infrastructure improvements for both existing and newly developing areas (as determined under the City's Land Use Element). As such, implementation of the Sewer System Master Plan will be consistent with applicable City Zoning, land use regulations, and development standards.

Person Preparing the Initial Study:

Richard Luther
Redevelopment Project Manager
900 W. Oak Street
Visalia, CA 93291

(209) 738-3414

APPENDIX I

ENVIRONMENTAL CHECKLIST FORM
(To Be Completed By Lead Agency)

I. Background

1. Name of Proponent City of Visalia (Engineering Department)

2. Address and Phone Number of Proponent (209) 738-3414
900 W. Oak Street
Visalia, CA 93291

3. Date of Checklist Submitted November 30, 1992

4. Agency Requiring Checklist City of Visalia

5. Name of Proposal, if applicable Sewer System Master Plan

II. Environmental Impacts

(Explanations of all "yes" and "maybe" answers are required on attached sheets.)

	Yes	Maybe	No
1. Earth. Will the proposal result in:			
a. Unstable earth conditions or in changes in geologic substructures?			X
b. Disruptions, displacements, compaction or overcovering of the soil?		X	
c. Change in topography or ground surface relief features?			X
d. The destruction, covering or modification of any unique geologic or physical features?			X
e. Any increase in wind or water erosion of soils, either on or off the site?			X
f. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake?			X
g. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards?			X

	Yes	Maybe	No
2. Air. Will the proposal result in:			
a. Substantial air emissions or deterioration of ambient air quality?		X	
b. The creation of objectionable odors?			X
c. Alteration of air movement, moisture, or temperature, or any change in climate, either locally or regionally?			X
3. Water. Will the proposal result in:			
a. Changes in currents, or the course of direction of water movements, in either marine or fresh waters?			X
b. Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff?			X
c. Alterations to the course or flow of flood waters?			X
d. Change in the amount of surface water in any water body?			X
e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity?			X
f. Alteration of the direction or rate of flow of ground waters?			X
g. Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?			X
h. Substantial reduction in the amount of water otherwise available for public water supplies?		X	
i. Exposure of people or property to water related hazards such as flooding or tidal waves?			X
4. Plant Life. Will the proposal result in:			
a. Change in the diversity of species, or number of any species of plants (including			

	Yes	Maybe	No
b. Reduction of the numbers of any unique, rare or endangered species of plants?		X	
c. Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species?			X
d. Reduction in acreage of any agricultural crop?			X
5. Animal Life. Will the proposal result in:			
a. Change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms or insects)?		X	
b. Reduction of the numbers of any unique, rare or endangered species of animals?			X
c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?			X
d. Deterioration to existing fish or wildlife habitat?			X
6. Noise. Will the proposal result in:			
a. Increases in existing noise levels?		X	
b. Exposure of people to severe noise levels?			X
7. Light and Glare. Will the proposal produce new light or glare?			X
8. Land Use. Will the proposal result in a substantial alteration of the present or planned land use of an area?			X
9. Natural Resources. Will the proposal result in:			
a. Increase in the rate of use of any natural resources?			X
10. Risk of Upset. Will the proposal involve:			
a. A risk of an explosion or the release of hazardous substances (including, but not limited to, oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions?			X

	Yes	Maybe	No
b. Possible interference with an emergency response plan or an emergency evacuation plan?	___	___	X
11. **Population.** Will the proposal alter the location, distribution, density, or growth rate of the human population of an area?	___	X	___
12. **Housing.** Will the proposal affect existing housing, or create a demand for additional housing?	___	___	X
13. **Transportation/Circulation.** Will the proposal result in:			
a. Generation of substantial additional vehicular movement?	___	___	X
b. Effects on existing parking facilities, or demand for new parking?	___	___	X
c. Substantial impact upon existing transportation systems?	___	___	X
d. Alterations to present patterns of circulation or movement of people and/or goods?	___	___	X
e. Alterations to waterborne, rail or air traffic?	___	___	X
f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians?	___	X	___
14. Public Services. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas:			
a. Fire protection?	___	___	X
b. Police protection?	___	___	X
c. Schools?	___	___	X
d. Parks or other recreational facilities?	___	___	X
e. Maintenance of public facilities, including roads?	___	X	___
f. Other governmental services?	___	___	X
15. Energy. Will the proposal result in:			
a. Use of substantial amounts of fuel or energy?	___	___	X

	Yes	Maybe	No
b. Substantial increase in demand upon existing sources or energy, or require the development of new sources of energy?	___	___	X
16. **Utilities.** Will the proposal result in a need for new systems, or substantial alterations to the following utilities:	___	___	X
17. **Human Health.** Will the proposal result in:			
a. Creation of any health hazard or potential health hazard (excluding mental health)?	___	___	X
b. Exposure of people to potential health hazards?	___	___	X
18. **Aesthetics.** Will the proposal result in the obstruction of any scenic vista or view open to the public, or will the proposal result in the creation of an aesthetically offensive site open to public view?	___	___	X
19. **Recreation.** Will the proposal result in an impact upon the quality or quantity of existing recreational opportunities?	___	___	X
20. **Cultural Resources.**			
a. Will the proposal result in the alteration of or the destruction of a prehistoric or historic archaeological site?	___	X	___
b. Will the proposal result in adverse physical or aesthetic effects to a prehistoric or historic building, structure, or object?	___	X	___
c. Does the proposal have the potential to cause a physical change which would affect unique ethnic cultural values?	___	___	X
d. Will the proposal restrict existing religious or sacred uses within the potential impact area?	___	___	X
21. **Mandatory Findings of Significance.**			
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten			

	Yes	Maybe	No
important examples of the major periods of California history or prehistory?	___	X	___
b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time while long-term impacts will endure well into the future.)	___	___	X
c. Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environment is significant.)	___	X	___
d. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	___	___	X

III. Discussion of Environmental Evaluation
(Narrative description of environmental impacts.)

IV. Determination
(To be completed by the Lead Agency.)

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. ☐

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A NEGATIVE DECLARATION WILL BE PREPARED. ☐

I find the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. ☒

12-21-92
Date

Signature

For BRITT FUSSEL
COMMUNITY DEVELOPMENT DIRECTOR

(Note: This is only a suggested form. Public agencies are free to dev

III. SEWER SYSTEM MASTER PLAN
EXPLANATION OF CHECKLIST ANSWERS

1. EARTH. Will the proposal result in:

(b) Disruptions, displacements, compaction, or over-covering of soil? Maybe.

Development of sanitary sewer facilities permitted as a result of the Sewer System Master Plan will result in grading, compacting, and disruption of soil. Where possible, development will occur within improved public street right-of-way and will not be the primary cause of such disruption or compaction.

2. AIR: Will the proposal result in:

(a) Substantial air emissions or deterioration of ambient air quality? Maybe.

Construction of sanitary sewer facilities permitted as a result of the Sewer System Master Plan will result emissions from construction equipment and fugitive dust from excavations. While air quality impacts directly associated with this project are limited to construction of improvements, there will be air quality impacts associated with urbanization served under sewer system improvements identified under this project. The EIR certified (August 1991) for the Land Use Element Update addresses this impact.

3. WATER. Will the project result in:

(h) Substantial reduction in the amount of water otherwise available for public water supplies? Maybe.

Pumping of groundwater that is ultimately transported to the City's wastewater treatment plant may reduce the amount of groundwater available for public water supplies.

4. PLANT LIFE. Will the project result in:

(a) Change in the diversity of species or number of any plants (including trees, shrubs, grass, crops, and aquatic plants)? Maybe.

Stands of large, old trees and some undisturbed vegetation still exist along water courses and open lands which may be subject to development of sanitary sewer facilities permitted under the Sewer System Master Plan. However, this impact would be limited to installation of sewer lines traversing through undeveloped areas rather than the more common installation within improved street right-of-way.

(b) Reduction in numbers of any unique, rare, or endangered species? Maybe.

The California Natural Diversity Data Base indicates the presence within the planning area of two rare natural plant communities, the Valley Oak Riparian Forest and the Valley Sacaton Grassland. Unique species may be present in these natural areas which may be adversely affected be development of sanitary sewer facilities permitted under the Sewer System Master Plan. However, this impact would be limited to installation of sewer lines traversing through undeveloped areas rather than the more common installation within improved street right-of-way.

5. ANIMAL LIFE. Will the proposal result in:

(a) Change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms or insects)? Maybe.

Some natural areas still exist in the planning area which provide habitat for wildlife. To the extent that sanitary sewer facilities permitted under the Sewer System Master Plan may be installed in undeveloped areas, there is potential for disturbance of these areas.

6. NOISE: Will the proposal result in:

(a) Increases in existing noise levels? Maybe.

Construction of sanitary sewer facilities permitted under the Sewer System Master Plan will result in increased noise levels relating to construction equipment.

11. POPULATION. Will the proposal:

Alter the location, distribution, density, or growth rate of the human population of an area? Maybe.

Development of sanitary sewer facilities permitted under the Sewer System Master Plan will provide infrastructure to support existing and future development identified under the City's General Plan Land Use Element update (adopted 1991) and is not intended to alter the location, distribution, density, or growth rate of population within the planning area. However, installation of sanitary sewer facilities may encourage and permit growth in areas serviced by such improvements. As an example, a new sewer truck line traversing an undeveloped area to service urbanized land may encourage new development along the trunk line route.

13. **TRANSPORTATION/CIRCULATION. Will the proposal result in:**

(f) Increase in traffic hazards to motor vehicles, bicyclists or pedestrians? Yes.

Most of the sanitary sewer facilities permitted under the Sewer System Master Plan will be installed within existing street right-of-way improvements. During construction of such facilities (sewer lines) there will be disruption of street traffic and potential hazards to motor vehicles, bicyclists and pedestrians.

14. **PUBLIC SERVICES. Will the proposal have an effect upon, or result in a need for new or altered governmental services by any of the following areas:**

(e) Maintenance of public facilities, including roads? Yes.

Development of sanitary sewer facilities permitted under the Sewer System Master Plan will increase the number and length of sewer lines which will be maintained by the City.

20. **CULTURAL RESOURCES. Will the proposal result in:**

(a) The alteration of or the destruction of a prehistoric or historic archaeological site? Maybe.

Relatively few archaeological investigations have been conducted in the planning area. Potential unrecorded archaeological sites may exist in the planning area which could be disturbed or destroyed by construction activities related to improvements under the Sewer System Master Plan.

(b) Adverse physical or aesthetic effects to a prehistoric or historic building, structure, or object? Maybe.

Development of improvements under the Sewer System Master Plan will not impact any existing historic building, structure, or object. However, potential unrecorded prehistoric structures or objects may be impacted by such development.

C:EIRS07.

STATE OF CALIFORNIA - CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY · PETE WILSON, *Governor*

STATE WATER RESOURCES CONTROL BOARD
DIVISION OF CLEAN WATER PROGRAMS
2014 T STREET, SUITE 130
P.O. BOX 944212
SACRAMENTO, CA 94244-2120
(916) 227-4481
(916) 227-4349 FAX

JAN 29 1993

Mr. Richard Luther
City of Visalia
900 W. Oak Street
Visalia, CA 93291

Dear Mr. Luther:

NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT (EIR) FOR THE CITY OF VISALIA (CITY) SEWER SYSTEM MASTER PLAN

Thank you for the opportunity to review the above referenced document. Specific comments follow.

1. The State Water Resources Control Board, Division of Clean Water Programs (State Water Board), is responsible for administering low interest loans for wastewater treatment plants and water reclamation projects. If the City will be seeking one of these loans, the State Water Board will be a responsible agency under CEQA, and will use all relevant environmental documents when making a decision on whether to issue the loan.

2. If the project is to involve a State Revolving Fund (SRF) loan, which is partially funded by EPA, additional environmental documentation and review will be required. For SRF loans, we are required to consult directly with agencies responsible for implementing federal environmental laws. Please provide us with eight copies of the draft environmental document so that we may initiate federal consultation. In addition, while CEQA itself does not require formal public hearings at any stage of the environmental review process, at least one hearing is required for a SRF loan project. Notices need to be distributed 30 days in advance. A copy of the notice and summary of the public review should be sent to the State Water Board with any loan application.

3. Specific alternatives to the project plan should be clearly described and evaluated in the EIR.

4. The final EIR should distinguish between those mitigation measures which will be adopted by the City as conditions of approval and those recommended by staff or the consultant. The final EIR should also identify what monitoring/reporting requirements will be used to ensure that the mitigation measures will be implemented effectively. If the District seeks an SRF loan, we will need a final mitigation plan and monitoring program for the project and a document from the District governing body committing to implementation of mitigation measures.

5. The EIR should address the following: wetlands, wild and scenic rivers, floodplains, environmentally significant agricultural land, critical habitats and other environmentally sensitive areas. If these areas are not within or near the project site or service area it should be so stated in the EIR.

6. The evaluation of impacts to cultural resources needs to be included in the document. We recommend that you conduct a records search and have the undeveloped project area surveyed by a qualified archeologist as soon as possible to determine if the project could impact any archeological sites. If state funding for the project is anticipated, the sites need to be assessed for the draft EIR. The following address is for the Information Center which serves your area:

Mr. Mark Sutton, Coordinator
San Joaquin Valley Information Center
California State University, Bakersfield
9001 Stockdale Highway
Bakersfield, CA 93311-1099
Attn. Catherine Lewis Pruett
(805) 664-2289
(805) 664-3194 Fax

Please provide me with three copies of the records search and the survey report. Our office will coordinate SHPO clearance.

7. The EIR should discuss growth inducing impacts associated with the project. Statements regarding growth inducing impacts should be directly supported with population projections used to determine facility capacities. Specifically, the capacity requirements must be assessed relative to the population projections used to develop the current Air Quality Management Plan.

8. Please provide a brief discussion of City's ability to provide adequate utilities for populations to be served as a result of the proposed project especially potable water supplies.

9. Enclosed is a copy of our "Environmental Review Process Guidelines for State Loan Applicants" which provides guidance in preparing a document which will be acceptable to the State Water Board.

If you require further assistance in this matter, please call me at (916) 227-4481.

Sincerely,

Joe L. Pope

Joe L. Pope
Environmental Services Unit

Enclosure

cc: State Clearinghouse
1400 Tenth Street
Sacramento, CA 95814

California Regional Water
Quality Control Board
Central Valley Region (5)
3614 East Asland Avenue
Fresno, CA 93726

STATE OF CALIFORNIA

Pete Wilson, Governor

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD
8800 Cal Center Drive
Sacramento, California 95826

January 27, 1993

Richard Luther
Cit of Visalia
900 W. Oak Street
Visalia, CA 93291

Russ Colliau
Office of Planning and Research
1400 Tenth Street
Sacramento, CA 95814

Subject: SCH# 92122093, Notice of Preparation (NOP) for a Draft Environmental Impact Report (DEIR) for the Visalia ~~Storm~~ Sewer Water Master Plan; Fresno County.

California Integrated Waste Management Board (Board) staff have reviewed the NOP for the DEIR, dated December 23, 1992, and following the project description you will find staff's comments.

PROJECT DESCRIPTION

The proposed project includes the existing City and the area planned for development through the year 2020. In order to analyze the existing sewer system and future improvements, a model of the main trunk and sub-trunk lines (10 inch and critical 8 inch lines) was developed. This model was used to simulate the routing of sewer flows from tributary areas to the treatment plant. For computer modeling and management purposes, the sewer system was divided into eight smaller, more manageable subsystems, also known as service areas.

GENERAL COMMENTS

Board staff request the DEIR include the following information:

A) Identification of the final disposal site(s) for the proposed project's anticipated waste generation, including sewage sludge which would require landfilling, and whether the disposal site(s) are permitted to accept sludge.

B) Identification of the potential impacts of the sludge quantities on the remaining capacity of the landfill(s) to be used by the jurisdiction.

C) Identification of the location(s) of previous landfilling and/or dumping of wastes which may have occurred within the area

of the proposed project. If prior disposal of wastes is identified, the DEIR should include a detailed discussion of all mitigation measures to be implemented in order to prevent potential environmental impacts from the development of this area.

Thank you for the opportunity to review and comment on the NOP. If you have any questions about these comments, please call Yasmin Satter of my staff at (916) 255-2337.

Sincerely,

L. Van Kekerix

Lorraine Van Kekerix, Manager
Waste Generation Analysis and Environmental Assessment Branch

STATE OF CALIFORNIA—THE RESOURCES AGENCY PETE WILSON, *Governor*

DEPARTMENT OF FISH AND GAME
REGION 4
1234 Shaw Avenue
Fresno, California 93710
(209) 222-3761

January 25, 1993

Mr. Richard Luther, Project Manager
City of Visalia
900 W. Oak Street
Vasalia, California 93291

Dear Mr. Luther:

Subject: Sewer System Master Plan

We believe the proposed project has associated incremental impacts which will have an adverse, although minor, effect upon fish, wildlife or native plants. In this case, the project has been proposed in a manner and/or location which reduces its incremental impacts such that we believe an EIR for the project is not warranted.

From a cumulative standpoint, the Lead Agency should recognize that even minor levels of disturbance or habitat loss can become significant if they are more broadly replicated through successive and permanent land use changes. While it is our position that the cumulative changes associated with this project may not be significant enough to warrant serious analysis or mitigation at this time, the significance of those cumulative effects could change in the future depending upon the number and scope of other projects approved within the geographic area. To the extent possible, we recommend that cumulative impacts be addressed and mitigated in the broader General and Specific Planning processes, rather than in individual projects such as this one. We are prepared to consult with your staff, regarding the scope of fish and wildlife cumulative impacts in your area and measures to avoid or compensate them.

In the event the project or its associated information basis is changed, we request an opportunity to reconsider these comments.

If you have any questions, please contact Mr. Dale Mitchell, Environmental Services Supervisor, at the address and/or telephone as shown above.

Sincerely,

Dale Mitchell

Mr. Dale Mitchell
Environmental Specialist IV

STATE OF CALIFORNIA—THE RESOURCES AGENCY PETE WILSON, *Governor*

DEPARTMENT OF FISH AND GAME
1234 East Shaw Avenue
Fresno, California 93710
(209) 222-3761

January 25, 1993

Mr. Richard Luther, Manager Planner
City of Visalia
900 W. Oak Streetrthouse
Visalia, California 93291-4593

Dear Mr. Luther:

Subject: Sewer System Master Plan; De minimis Impact Finding; Responsibility, Pursuant to Fish and Game Code Section 711.4, Filing Fees

Regardless of whether the above project will incrementally have environmental effects which were determined to exceed the CEQA "significant impact" threshold, (therefore warranting specific or general mitigation measures and/or preparation of an Environmental Impact Report), we believe the project will involve elimination or destruction of at least some habitat. These, in combination with similar losses on other projects are becoming cumulatively important. For this reason, the project is not considered by the Department as "De Minimis" with respect to Fish and Game Code Section 711.4. As such, we believe the project is subject to the environmental review fees as therein described. If a Negative Declaration will be filed by the County pursuant to Public Resources Code Section 21080(c), the fee will be $1250, payable to the County Clerk when the Notice of Determination is filed.

We point out that this law is intended to more fairly distribute the cost of protecting and managing fish and wildlife resources among the broad group of Californians who contribute to their short and long term reductions through habitat conversion and development.

If you have questions or wish to discuss these comments, please contact Dale Mitchell, Environmental Services Supervisor, at the above address or telephone.

Sincerely,

Dale Mitchell

Mr. Dale Mitchell
Environmental Specialist IV

cc: Project Applicant

STATE OF CALIFORNIA PETE WILSON, *Governor*

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082

January 13, 1993

Richard Luther
City of Visalia
900 W. Oak Street
Visalia, CA 93292

RE: Sewer System Master Plan

Dear Mr. Luther:

The Native American Heritage Commission recommends that mitigation measures covering cultural resources use the language found in the California Environmental Quality Act (CEQA), Appendix J. CEQA gives directions to following the event any previously undetected archaeological sites are inadvertently discovered during any phase of construction. Use of the language in Appendix J, or reference to the standardized procedures therein, helps to eliminate costly delays and assures more adequate protection of such cultural resources. I recommend that you contact and work closely with the appropriate Native American group in the area during the initial planning stages. They may be able to offer input regarding sites in the area.

The Native American Heritage Commission has prepared a pamphlet for use by lead agencies, planners, developers, and property owners. It provides an easy-to-read breakdown of the California Codes pertaining to Native American human remains and their disposition. I have included a copy of this brochure for your information.

If you have any questions or need any additional information, please contact me.

Sincerely,

Debbie Pilas-Treadway
Staff Analyst

cc: State Clearing House

Enclosure

San Joaquin Valley
Unified Air Pollution Control District

February 3, 1993

Richard Luther
CITY OF VISALIA
900 West Oak Street
Visalia, CA 93291

Notice of Preparation for Sewer System Master Plan (SCH #92122093)

The San Joaquin Valley Unified Air Pollution Control District (District) has reviewed this Notice of Preparation (NOP) and has the following suggested air quality concerns to be included in your draft Environmental Impact Report (DEIR).

As you are probably aware, the San Joaquin Valley (SJV) has been designated as a non-attainment area for PM_{10} and Ozone by the California Air Resources Board and the Environmental Protection Agency. In addition, the California Clean Air Act of 1988 requires air basins that are designated non-attainment to achieve a 5% annual reduction in emissions until the standards are met. It is therefore imperative that all projects in the SJV mitigate emissions where possible.

The District agrees that the air quality impacts associated with urbanization would be more appropriately dealt with in the Land Use Element Update. Therefore the District's primary concern with this project from an air quality perspective is in the construction and excavation. Particulate matter emissions would be temporary but significant. These emissions could be sufficiently mitigated by adhering to simple procedures. Attached is a list of "Suggested Air Quality Dust Mitigation Measures" from which you can choose appropriate dust control measures. Please use this list and include all in your DEIR unless reasons for omission are provided.

David L. Crow
Executive Director/Air Pollution Control Officer
1999 Tuolumne Street • Fresno, CA 93721 • (209) 497-1000 • Fax (209) 233-2057

The District is also concerned about the potential for an odor problem. The District would like to see discussion in your DEIR dealing with how the applicant will be prepared to maintain all facilities and their byproducts in such a manner that no nuisance violations, pursuant to the District's Rule 4002, will occur.

The District appreciates the opportunity to comment on this Notice of Preparation. If you have any questions, please do not hesitate to contact Joe O'Bannon at (805) 861-3682.

ROBERT C. DOWELL
DISTRICT MANAGER OF ENVIRONMENTAL PLANNING

By: Joe O'Bannon
Environmental Planner, Southern Region

Attachment

APCD Ref #: S930001

Suggested Air Quality Dust Mitigation Measures

(for Construction Sites)

Pre-Construction - Emissions generated during the pre-construction process are of a concern to the District. The following dust control practices should be implemented:

- All material excavated or graded should be sufficiently watered to prevent excessive amounts of dust. Watering should occur at least twice a day with complete coverage, preferably in the late morning and after work is done for the day.
- All clearing, grading, earth moving, or excavation activities should cease during periods of high winds greater than 20 mph average over one hour.
- All material transported off-site should be either sufficiently watered or securely covered to prevent excessive amounts of dust.
- The area disturbed by clearing, earth moving, or excavation activities should be minimized at all times.
- Where acceptable to the fire department, weed control should be accomplished by mowing instead of discing, thereby leaving the ground undisturbed and with a mulch covering.

During Construction - After clearing, grading, earth moving, or excavation operations, during the construction phase, fugitive dust emissions should be controlled by the following methods:

- All inactive portions of the construction site should be seeded and watered until grass growth is evident.
- All active portions should be sufficiently watered to prevent excessive amounts of dust.

General Fugitive Dust - At all times, fugitive dust emissions should be controlled using the following procedures:

- On-site vehicle speed should be limited to 15 mph.
- All areas with vehicle traffic should be watered periodically or have petroleum-based palliatives[1] applied for stabilization of dust emissions.
- During rough grading and construction, streets adjacent to the project site should be swept at least once per day, or as required by the

governing body, to remove silt which may have accumulated from construction activities.

- During rough grading and construction, access to the site should require the building of an apron into the project site from adjoining paved roadways. The apron should be paved or have a petroleum-based palliative[1] applied.

Ozone Precursors - At all times, ozone precursor emissions should be controlled by the following methods:

- All internal combustion engine driven equipment should be properly maintained and well tuned according to manufacturer's specifications.

---

1 Use of petroleum-based palliatives shall meet the road oil requirements of the District's Rule 4641 - Cutback Asphalt Paving Materials.

The Gas Compan

Wayne C. Clark
Division Superintendent

January 7, 1993

Southern California Gas Company
5000 W. Cypress Ave
Visalia, CA

Mailing Address:
Box 591
Visalia, CA
93279

City of Visalia
900 W. Oak Street
Visalia, CA 93291

Attention: Richard Luther
Project Manager

Re: Sewer System Master Plan

Southern California Gas Company has reviewed the subject report and has no comments to offer, nor do we anticipate any problems with the proposals therein.

N. H. Atkins

N. H. Atkins
Planning Technician

NHA:cw

CALIFORNIA WATER SERVICE COMPANY
216 N. VALLEY OAKS DR. • VISALIA, CA 93292-6717 • (209) 734-6734

January 4, 1993

Mr. Richard Luther
Redevelopment Project Manager
900 W. Oak Street
Visalia, California 93291

RE: Sewer System Master Plan
Storm Water Master Plan and Management Program

Dear Mr. Luther:

We have reviewed the above projects and have no comment.

Sincerely,

CALIFORNIA WATER SERVICE COMPANY

Steve Toovey
District Manager

ST/lr

Continental Cablevision

January 4, 1993

Mr. Richard Luther
CITY OF VISALIA
900 W. Oak Street
Visalia, CA 93291

Subject: Sewer System Master Plan
Dear Mr. Luther:

We have received your report notice of preparation of a draft environmental impact report for the Sewer System Master Plan.
We at Continental Cablevision do not anticipate being affected by this project as currently shown.

Upon any excavation please notify United Service Alert at 1-800-642-2444.

Respectfully,

Bruce Walters
Construction Supervisor

BW/ac

111 N. MOONEY BLVD. • TULARE, CA 93274 • (209) 688-7593

APPENDIX B

NOTICE OF PREPARATION ADDENDUM (March, 1993)

&

RESPONSES TO THE CITY

Dale

ADDENDUM TO
NOTICE OF PREPARATION

TO: Visalia Redevelopment Agency
900 W. Oak Street
Visalia, CA 93291

FROM: City of Visalia
900 W. Oak Street
Visalia, CA 93291
(209) 738-3414

SUBJECT: Addendum to Notice of Preparation (NOP) distributed for an Environmental Impact Report

PROJECT TITLE: Sewer System Master Plan

STATE CLEARINGHOUSE NO.: 92122093
CITY ENVIRONMENTAL DOCUMENT NO: 92-51

In December 1992, the City of Visalia (Engineering Department) prepared and distributed an NOP for the Sewer System Master Plan. Subsequent to the preparation of the NOP it was determined that an additional specific improvement project would be required to correct a truck sewer line deficiency as described in the attached Addendum. The attached Addendum contains a brief description of the sewer line project, its location, and probable environmental effects. This information should be reviewed in conjunction with the Initial Study and environmental determination previously distributed to you under the original NOP. We need to know your views as to the scope and content of the environmental information as it relates to this specific part of the project. The comments previously received from your agency with regard to the original NOP and comments regarding this portion of the project will be utilized in our preparation of the Draft EIR.

Due to the time limits mandated by state law, your response to the Addendum must be sent at the earliest possible date but not later than 30 days after receipt of this Notice.

Please send your responses to Richard Luther at the address and phone number shown above. We will need the name for a contact person in your agency.

DATE: March 3, 1993 Signature: Richard Luther

Attachment:

Addendum to the NOP

C:EIRS75.

CITY OF VISALIA
SEWER SYSTEM MASTER PLAN
ADDENDUM TO NOTICE OF PREPARATION

Background:

In December 1992, the City of Visalia prepared and distributed a Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the Sewer System Master Plan project (SCH # 92122093). The previous NOP, which included an Initial Study and Environmental Checklist, considered adoption of the Master Plan to service the urbanized area of the City as identified in the Land Use Element of the General Plan (through the year 2020). Subsequent to the preparation and distribution of the NOP, it was determined that a significant portion of the service area of a particular sewer trunk line was deficient requiring corrective action as described below.

Project Description:

During ongoing sewer flow monitoring and line capacity calculations, it was determined that the easterly portion of the Akers-Caldwell Trunk Line (Service Area 1) has limited capacity to accommodate future development as provided under the City's Land Use Element of the General Plan. In addition, an agricultural processing plant (olive processing) is currently utilizing a significant portion of the line capacity and may seek future expansion with increased discharge. As a result of this deficiency, a sewer trunk line project is necessary to relieve this line prior to the year 2000.

After review by the City's Engineering Department, the preferred alternative is the construction of the Avenue 272-Road 148 trunk line. The new trunk line (which will be constructed in undeveloped area) will extend 1 mile south of Caldwell along the Akers Road alignment, then easterly about 3.5 miles along the Avenue 272 alignment to the Santa Fe Avenue alignment, and then north along the Santa Fe Avenue alignment 1 mile to Caldwell Avenue (see attached Figure 1). Pipe size will range between 48" and 18" depending upon location. It should be noted that the Avenue 272 truck line has been identified as a project under the Sewer Master Plan but that construction was indicated at some point after the year 2000. Given the preference expressed by the City's Engineering Department, this project will be considered as the primary project for CEQA review purposes.

An identified alternative to construction of the Avenue 272 line is the construction of a 3.5 mile new truck line through developed area along the Whitendale Avenue alignment between Akers Road and Santa Fe Avenue (see Figure 1). Pipe size would range between 30" and 18" depending upon location. This alternative has been "on the drawing board" for some time and identified as a relief line to accommodate the olive plant discharge at Santa Fe Avenue. This alternative is not preferred by the

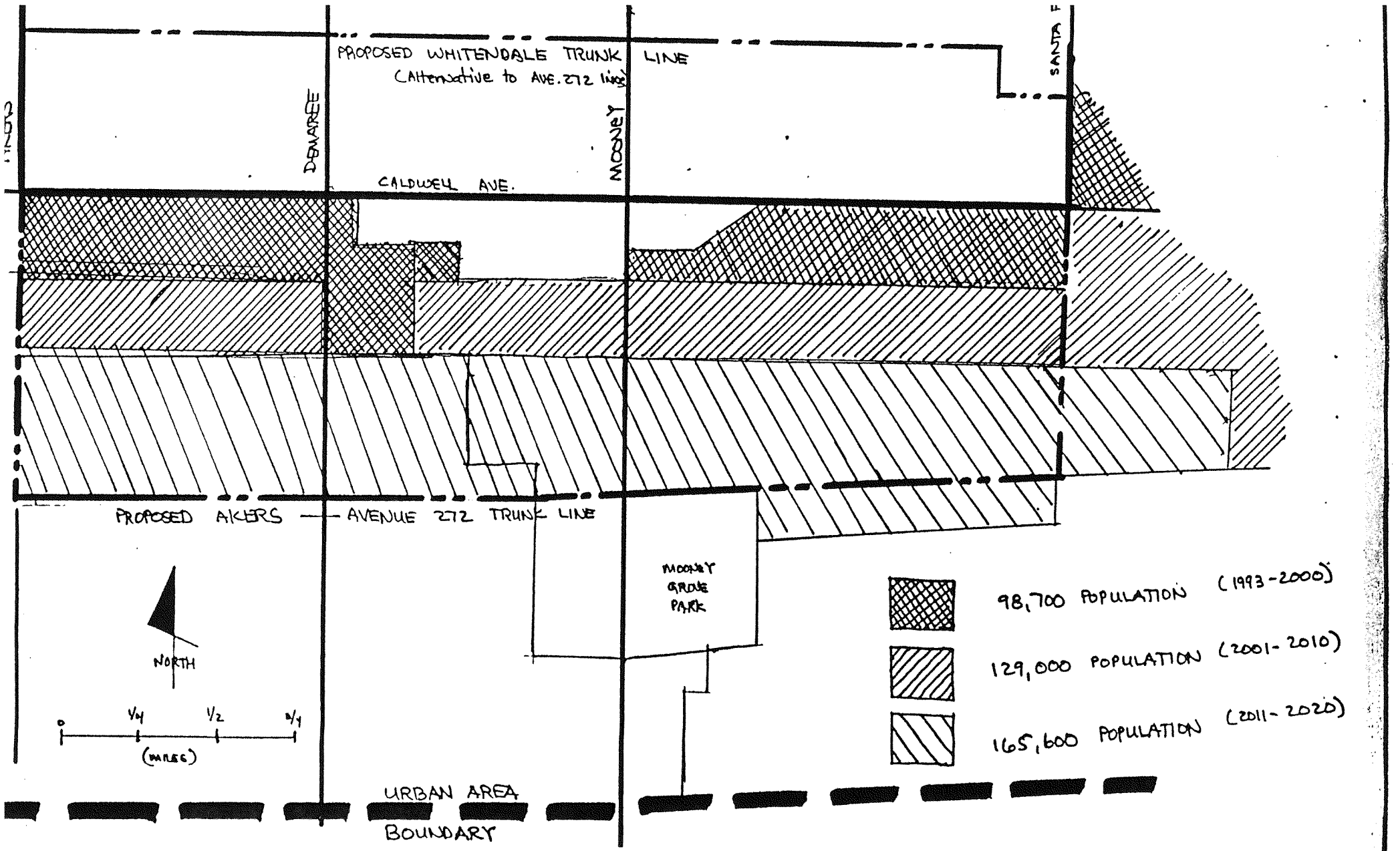

PROPOSED WHITENDALE TRUNK LINE
(Alternative to AVE. 272 line)
DEMAREE
MOONEY
CALDWELL AVE.
SANTA F
PROPOSED AKERS — AVENUE 272 TRUNK LINE
MOONEY GROVE PARK
NORTH
0
1/4
1/2
1
(MILES)
98,700 POPULATION (1993-2000)
129,000 POPULATION (2001-2010)
165,600 POPULATION (2011-2020)
URBAN AREA BOUNDARY

FIGURE 1

City's Engineering Department at this time based primarily on high cost per second feet of capacity and construction disruption within a developed area. However, this trunk line will be included within the DEIR as an identified alternative to the primary project (Avenue 272 trunk line).

It should be noted that short term relief for the Akers-Caldwell line may be provided through diversion to the Walnut Avenue trunk line which still has some capacity remaining. In addition, the remaining capacity in the Akers-Caldwell line can accommodate up to 500 acres of residential development or an equivalent capacity of discharge from the olive plan. However, this is viewed as a very limited solution and plans for permanent relief must be made at this time.

Probable Environmental Impacts (potential areas for mitigation):

In addition to the probable environmental impacts as identified in the initial NOP, the proposed Avenue 272 truck line represents a potential major new growth inducing impact. The truck line location will traverse area currently in agricultural use and, for the most part, not designated for development until after the year 2010 (see Figure 1). The line location is on the southerly edge of the Land Use Element 30 year growth boundary and the area southerly of the new line will not be open for development until after the year 2020. As such, the provision of a major new sewer line, which is sized to accommodate ultimate urbanization under the Land Use Element, through undeveloped area 30 years prior to its need for adjoining development places a real pressure for premature urbanization. This situation is further compounded when consideration is given to the public cost of installing the line and the excess capacity which will remain unused over the 30 year life of the Land Use Element.

Impacts related to the alternative Whitendale trunk line are primarily associated with construction impacts. The proposed trunk line would be placed within existing street right-of-way and would require careful attention to traffic control, dust, and noise impacts.

Consistency with Adopted Zoning, Plans, and Other Applicable Land Use Controls:

As indicated in the initial NOP, the Sewer Master Plan is a response to the Land Use Element policy regarding master planning of infrastructure needs. The proposed trunk lines (Avenue 272 and, as an alternative, Whitendale) address an immediate need for planning and construction purposes.

Person Preparing the Initial Study:

Richard Luther
Redevelopment Project Manager
900 W. Oak Street
Visalia, CA 93291

(209) 738-3414

C:EIRS76.

CALIFORNIA WATER SERVICE COMPANY
216 N. VALLEY OAKS DR. • VISALIA, CA 93292-6717 • (209) 734-6734

March 5, 1993

Mr. Richard Luther
City of Visalia
900 W. Oak St.
Visalia, California 93291

RE: Addendum to Notice of Preparation-Sewer System Master Plan

Dear Richard:

We have reviewed the above addendum and have no comment.

Sincerely,

Steve Toovey
District Manager

ST:bb

DEPARTMENT OF FISH AND GAME
REGION 4
1234 East Shaw Avenue
Fresno, CA 93710
(209) 445-6152

March 22, 1993

Mr. Richard Luther
City of Visalia
900 W. Oak Street
Visalia, California 99329

Dear Mr. Luther:

Notice of Preparation for Draft EIRs
Sewer System Master Plan SCH #92122093
and Storm Water Master Plan - City of Visalia

We have reviewed NOPs for the projects referenced above. The Sewer System Master Plan EIR will serve as a focused EIR, building on the Land Use Element EIR (SCH #90020160) which was certified in August 1991 as part of the City's 30-year growth plan update. This EIR will concentrate on impacts not covered under the previous EIR. The Visalia Storm Water Master Plan will update and expand the existing Master Plan as adopted in 1987 to include the year 2020 development boundary. Our comments are as follows:

1. All actions proposed in these projects that could affect riparian habitat should conform to the policies and guidelines detailed in the City General Plan Conservation, Open Space, Recreation and Parks element. The General Plan provides riparian protection measures and should result in avoidance of all impacts.

If general plan guidelines are not followed, then EIRs will be needed to identify riparian impacts and mitigation measures.

2. Proposed new storm water facilities (holding basins) could provide good quality wildlife habitat if designed properly. Use of native vegetation in landscape plans should help encourage wildlife use.

3. Any project which will result in the modification of a stream or lake as defined in the Public Resources Code Sections 1.56 and 1.72 requires formal and separate notification of the Department pursuant to Fish and Game Code sections 1600 et.seq.. Enclosed is a Stream/Lake Alteration Notification Form and information about the process.

If you wish to discuss these comments or have additional questions, please contact Ms. Donna Daniels, Environmental Specialist or Mr. Dale Mitchell, Environmental Specialist - Supervisor, at the address or telephone number listed on this letterhead.

Sincerely,

for George D. Nokes
Regional Manager

Enclosure

March 23, 1993

Memo to: Richard Luther
From: Phyllis Coring
Subject: Addendum to Notice of Preparation - Sewer System Master Plan

I received the addendum to the NOP for the Sewer System Master Plan and appreciate the opportunity to review the addition. I agree with the assessment on Page 3, Probable Environmental Impacts, that the Avenue 272 trunk line will have growth inducing impacts. These impacts can be considered significant given the location of the line on the outermost boundary of projected development during the 30 year Land Use Element planning period. In addition, the line is proposed along a boundary line for which development is not designated until sometime after the year 2020 and the sewer line in the proposed alignment could lead to premature development of the area.

Again, I appreciate the opportunity to review the addendum to the Notice of Preparation and if you have any questions regarding my comments, please call me at 738-3328.

Quercus

VOL 3, NUMBER 1 - WINTER/SPRING 1995
PLANNING FOR CALIFORNIA'S OAK WOODLANDS

PUBLISHED BY THE UNIVERSITY OF CALIFORNIA
INTEGRATED HARDWOOD RANGE MANAGEMENT PROGRAM

Local Action to Conserve California's Oak Woodlands

Sheila Gaertner, Farm Advisor, Livestock-Natural Resources, University of California Cooperative Extension

Thousands of acres of oak woodlands were cleared in the northern Sacramento Valley from the 1940s through the '60s to improve forage production. While clearing is rare today, there is considerable concern that harvests of firewood, agricultural conversions, and residential developments may cause a negative local or regional impact on the oak woodlands.

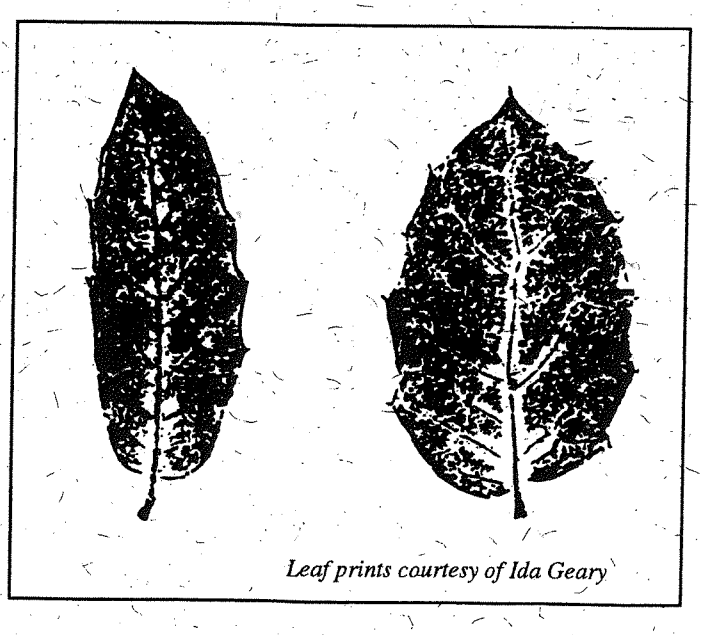
In the spring of 1993, the California Board of Forestry reviewed impacts to oak woodlands due to overharvest or development. Of particular concern to the Board of Forestry were suggestions by environmental groups, such as the Sierra Club to regulate these impacts. Tehama County Supervisor Kathleen Rowen and Tehama County Cattlemen's President Dick O'Sullivan appeared before the Board of Forestry and suggested that Tehama County would take local action to sustain its oak woodlands. In lieu of regulation, the Board of Forestry decided to support Tehama County's local efforts. They also encouraged every other county in the state to take local action for oak conservation.

. . . Tehama County would take local action to sustain its oak woodlands.

Kathleen Rowen established a Hardwood Harvest Plan Advisory Committee for Tehama County. Included on the committee were property owners, the California Department of Fish and Game, developers, woodcutters, the Sierra Club, the Soil Conservation Service (now the Natural Resource Conservation Service, the Range Management Advisory Committee, UC Cooperative Extension, and the Cattlemen's Association. The committee selected Bob May, a woodcutter, to chair the committee. At the committee's first meeting on June 24, 1993, the general consensus was that:

(a) private property rights must be preserved;
(b) there is a level of harvest that can be maintained;
(c) trees increase property value;
(d) oak trees regenerate; and
(e) the harvest of oak trees provide dollars to the local economy.

Continued on page 7



Leaf prints courtesy of Ida Geary

The Oak Habitat Restoration Project in the Walnut Creek Open Space

Dan Cather, Department of Planning, City of Walnut Creek

Walnut Creek's open space is one of the most outstanding aspects of an outstanding city. The open space is comprised of four hilly areas totaling about 2700 acres, all contiguous to residential areas. The open space has been at risk from several problems. One of the major concerns about the open space areas is that oak seedlings, saplings and young trees are very rare. The Project is attempting to restore a natural sequence of young to old trees before natural die-off turns the area into a largely treeless grassland a century or two hence.

The first activity that eventually became the Oak Habitat Restoration Project occurred during the fall of 1990 when one of the three Project coordinators, Dick Daniel, planted about 100 acorns within screen cylinder protectors in a small ungrazed area near Borges Ranch to determine whether this method could regenerate oaks. Following the high success rate of this planting, the Project expanded to a full fledged activity with the addition of the other two coordinators, Dan Cather, Open Space Superintendent, and Ralph Kraetsch. Interested volunteers were gathered in the early summer of 1991 and a tentative program was outlined.

The goals of the program have broadened through the subsequent months, from simple recruitment of volunteers, harvesting and planting acorns and watering the resulting seedlings, to an outreach and education effort through a monthly newsletter, as well as coordination with local schools to educate children in the value of oaks and associated species, and to respect the open space and its animal and plant life.

The Project is attempting to restore a natural sequence of young to old trees before natural die-off turns the area into a largely treeless grassland a century or two hence.

We have also begun a program of data collection on various planting and nurturing methods in order to help guide future restoration activities.

The long term goals of the Project are still developing. Eventually the efforts may be extended beyond the area now undergoing restoration to the entire City-owned open space, and perhaps we will be able to move from simple replacement of tree oaks to other native trees, shrubs and grasses which are no longer seen in much of the open space. In 1992 one of the volunteers began restoration in the Sugarloaf Open Space.

Most of the planting activities of the Project have taken place in a 450-acre area of Shell Ridge Open Space from which cattle have been excluded since December 1990. During 1992-93 we began limited planting in several adjacent grazed areas to test various methods of seedling protection.

The Shell Ridge Open Space contains three species of oaks—blue, valley and coast live oaks. An estimated 80% are blue oaks. Valley oaks represent about 20% of the population. Coast live oaks may comprise a few percent. They hold their leaves over winter. Leaves are small, shiny and have sharp points on edges. Bark on young trees is rather smooth, but breaks into large rough ribs on mature trees.

Lime Ridge Open Space may contain other varieties, but they have not been evaluated. Interior live oak is likely to be present since they are present in nearby Mt. Diablo State Park.

Quercus

A publication of the Integrated Hardwood Range Management Program, Department of Environmental Science, Policy and Management - Forestry, 160 Mulford Hall, University of California, Berkeley, CA 94720.

Editor:
Richard B. Standiford, IHRMP, University of California, Berkeley

Design & Layout:
Pamela J. Tinnin, IHRMP, University of California, Berkeley

Community Participation

Volunteers range in age from 6 to over 70, and include a cross section of people from the city as well as neighboring towns deeply interested in the Walnut Creek open space. Some attend most activities, but others are able to participate only now and then. Children are welcomed with their parents, but since summer watering is so important to our success, school classes or youth groups that are not active in the summer have not so far been encouraged to participate.

The Project's educational activities include the newsletter, *Oak News*, which reviews recent field work, announces coming activities, and discusses items of likely interest to the volunteers. The Project also has a modest program of bringing a 20-minute presentation on oaks and the Walnut Creek Open Space to elementary school classes.

Restoration in Grazed Areas

The Project is evaluating methods of restoration in areas that are being actively grazed. We have used the majority of a recent grant and major contributions to purchase Tubex tree protectors and steel fence posts which may answer the need for a system of protection from cattle and deer damage. We are using Tubex plastic tree protectors in the 6-foot length wired to 1 or 2 posts for maximum protection from browsing animals. Tubex has been shown to significantly increase the seedling growth rate and is reported more effective in conserving water during the dry season.

The Project also installed 2-foot and 4-foot Tubex on seedlings from the both the 1991 and 1992 acorn harvests in the protected area. While not inexpensive, the Tubex and steel post method could have considerable application if it is found successful.

Data Collection

During 1992 we numbered our planting sites in order to record data on planting and nurture. Data is being stored provide information to guide our future program. This information includes: screened vs. unprotected plantings, proportion of acorns sprouting, effect of size of site clearing, effect of site location, differences between 6, 4, and 2 foot Tubex and TreePro protectors and between various support post combinations, species growth rates related to locations, and viability of seed from different parent trees.

Leaf print courtesy of Ida Geary

Calendar of Suggestions, Activities, Procedures

Shown below is the typical calendar of events for the Project.

Late July to Mid-August
- Identify acorn-bearing trees

Late August to Mid-September
- Harvest acorns
- Store acorns

October
- Construct protective screen cylinders for acorn planting

November-January
- Plant acorns in appropriate areas

Late March to May
- Inspect plantings for sprouting success
- Install plastic protectors if needed and available

May to September
- Water seedlings on a monthly basis to increase survival rate and speed growth

Late July
- Begin next year's calendar of activities

October
- Measure height of all seedlings annually

Funding and Assistance

The Walnut Creek Open Space Oak Habitat Restoration Project was made possible by funding from various donors. They include: a matching grant from the 1993 America the Beautiful National Urban Forestry Grant Program which is funded in part by the U.S. Department of Agriculture and the California Department of Forestry and Fire Protection, major contributions from the East Bay Chapter of the California Native Plant Society, UDC Homes, Chevron, as well as many individuals. The America the Beautiful grant is administered by California Releaf/The Trust for Public Land following recommendations by the California Urban Forestry Advisory Council. The Project also received assistance and encouragement from the California Oak Foundation.

Tax Incentives Encourage Open Space Conservation

Richard B. Standiford, IHRMP, University of California, Berkeley

Introduction

Residential and commercial development is the leading cause of conversion of oak woodlands over a relatively large area of the state. Oak woodlands have the highest biological diversity of any major habitat type in the state. This is largely due to the landscape composition of these areas, with large, continuous blocks of extensively managed land. This conversion process has resulted in fragmentation of these large blocks and a decrease in the landscape values of these lands, threatening a decrease in biological diversity in the future.

This development pressure is fueled by the extremely high values for lots for homes and commercial properties, which greatly exceed the land's value for agricultural or natural resource uses. However, there are some opportunities for individuals who own oak woodland open space to voluntarily conserve the resource values of their land in its current undeveloped state, while still receiving some financial benefit from its value as a developed site. As open space in oak woodland continues to decrease, market-based strategies that allow landowners to recognize the values of their lands while still providing the public values of wildlife habitat, watershed protection, and aesthetic value, need to be looked at more closely.

Market-based Strategies

An excellent book illustrating how market-based strategies can be applied to reduce estate, income, and property taxes is available through the Peninsula Open Space Trust. It is entitled, *Preserving California's Land: Incentives for Peninsula Landowners* (see ordering instructions below). This excellent guide points out the importance of advance planning to ensure that open space values are retained. It shows that the need to pay estate taxes doesn't necessitate the subdivision of land when the owners and their heirs desire that it be maintained as private open space. The book shows how it is possible to sell or donate some of the land's value without giving up the land itself. It should be understood that these benefits do not come without a cost. By receiving these tax benefits, some future rights to the property are sacrificed, reducing the owner's flexibility to change their mind about future management direction. This books makes extensive reference to the use of conservation easements and gifts of land as mechanisms to utilize market strategies to conserve open space.

Conservation Easements — These are legal agreements to restrict activities that take place on land. Conservation easements are permanent, and binding on all future owners. The land still belongs to the landowner, although their rights to carry out some activities are reduced. The easement is usually donated or sold to a land trust or similar group. This is often a desirable strategy for open space conservation because the property still remains in private ownership, yet natural features are conserved. This donation or sale of part of the land's value affects income, property, and estate taxes. Landowners are often able to receive tax relief based on the value of the easement, which is generally the value of the development rights given up. Easement restrictions are negotiated and can be quite flexible. A conservation easement may prohibit construction, but allow management practices such as livestock grazing or selective firewood harvest. Some easements may even allow some cluster development with large blocks maintained for their habitat or open space value.

Land Gift — Another option to encourage open space conservation involves the gift of the land to a land trust or public agency. This requires that there is some important conservation value for the particular property. This strategy decreases the value of an estate, and reduces estate and income taxes. The negative aspect of this strategy is that the land is no longer in private ownership, and will require regular, on-going investments of public funds to support required management activities such as fuel reduction and habitat restoration.

Case Study

This publication provides an excellent series of case studies to illustrate how conservation easements or gifts of open space can be justified on the basis of estate tax relief and reduction of annual income and property taxes. Shown below is one general example of an oak woodland case study provided in the text, and a series of alternatives illustrating some of the implications of different conservation strategies on a family's portfolio and tax burden.

General Description of Case Study

- 200 acre oak woodland in Peninsula foothills with a home
- Purchased 25 years ago for $100,000
- Currently surrounded by urban land
- Present land value is $5,000,000
- "Bypass trust" of $600,000 set up for surviving spouse and children
- $2,000,000 in other assets
- Annual adjusted gross income is $300,000.

Alternative 1 — No Planning

- Husband dies — No tax on trust or assets passing to wife
- Wife dies — Combined state and federal estate taxes are $2,968,000
- Pressure on heirs to sell all or part of property to pay taxes

Alternative 2 — Conservation Easement

- Gift of conservation easement reduces value of oak woodland reduced to $2,000,000
- Receive average income tax benefits of $110,000 per year for 6 years (income taxes reduced by 87 percent annually)
- Following death of second spouse, estate taxes would be $1,318,000 (decrease by 55 percent)

Alternative 3 — Sale of Property

- Sale of property for development potential
- Tax on capital gains
- Following death of second spouse, estate tax on residual net worth
- Only 35 percent of estate value remains after taxes

Alternative 4 — Retain Some Development Rights, Conservation Easement for Rest

- Retain home and cluster development rights for 4 lots (Home worth $1,000,000; each lot worth $500,000) in low impact area of property
- Conservation easement for residual open space (almost 88 percent of property retained for open space and habitat value)
- Income taxes reduced
- After death, sell lots to pay estate taxes
- Net value to heirs virtually the same to heirs as alternative 3, plus open space is conserved

Summary

The principles illustrated in this book are quite practical in illustrating the implications of open space conservation strategies on an individual family's net tax situation. It is quite a useful tool to show how an individual with a large block of ecologically important oak woodland can receive some considerable savings in income taxes through the donation of some part of the development value of the property to a conservation easement. It also shows the importance of careful planning, and how some of the development value can be utilized while retaining a significant part of the open space value of a property. These tools need to be considered by planners and conservationists interested in ensuring that oak woodland habitat is retained in the face of escalating pressure for development in California.

Ordering Instructions

Preserving California's Land: Incentives for Peninsula Landowners, by Ann A. Duwe. It is available for $8.00 (includes postage, handling and taxes) from: Peninsula Open Space Trust, 3000 San Hill Road, Bldg. 4, Suite 135, Menlo Park, CA 94025, 415-854-7696. This material is also available on diskette to land trusts who are interested in modifying the material to fit their geographic area, and printing their own educational booklet. Check with the Peninsula Open Space Trust for details.

Oak Woodland Monitoring Workshops Offered

Four workshops are being offered in May of this year on principles of ecological monitoring of oak woodlands. These will involve both classroom lectures and field exercises. Two of the workshops are 2-days in length, and are intended for resource management professionals (registration fee is $100). The other two workshops are one-day in length, and are intended for landowners (registration fee is $25). Shown below are the dates and locations for these workshops. For registation forms and information, contact: Joni Rippee, 160 Mulford Hall, University of California, Berkeley, CA 94720. Phone: 510-643-5429 FAX: 510-643-5438.
e-mail: rippee@nature.berkeley.edu

Date	*Location*	*Audience*
May 9 to 10	San Joaquin Experimental Range (Madera Co.)	Resource Professionals
May 11	San Joaquin Experimental Range (Madera Co.)	Landowners
May 23 to 24	San Andreas (Calaveras Co.)	Resource Professionals
May 25	San Andreas (Calaveras Co.)	Landowners

Grazing Programs on Open Space

Richard B. Standiford, IHRMP, University of California, Berkeley

Livestock grazing is the major broad land use on California's oak woodlands. It is estimated that two-thirds of the state's oak woodlands are utilized by domestic livestock. Ownership of oak woodlands is undergoing dramatic change, however. A recent survey of landowners indicated that 18 percent of the owners changed in the course of the last 7 years. There is a trend towards smaller parcel sizes as large ranches are subdivided, increasing fragmentation effects. There is also an increase in the amount of land managed and owned by land trusts, open space districts, homeowner associations, and land developers.

Livestock grazing still has considerable value for many of these landowners who have not had a traditional link with the livestock management business. Groups often are looking to establish grazing leases with livestock enterprises to generate annual cash flow for maintenance of roads and fences, to reduce fuel loads in areas adjacent to homes, and to mimic the ecological process of grazing by large ungulates.

Leaf print courtesy of Ida Geary

For individuals who have little background in grazing enterprises, there are a few sources of information which may be of use in setting up grazing programs. The publication, "Determining the Value of Grazing Leases for Annual Rangeland" provides a good overview of the components that help determine how much a lease is worth (see ordering instructions below). There are a number of worksheets in this publication designed to aid livestock producers (lessees) and landowners (lessors) in negotiating fair lease values. Many county agricultural commisioners' offices also maintain information on the value of the average grazing lease for different parts of the county. An additional reference for setting up a livestock lease program is the publication, "Developing Livestock Leases for Annual Grasslands."

Seek Professional Assistance

Professional assistance in setting up grazing programs should be obtained from individuals with a background in range management. The Society for Range Management (SRM) is a national professional society of range managers. SRM has two different certification programs that help ensure that professional range managers are familiar with the ecological and managerial principals involved in sustainable management of rangelands. The national SRM program has developed a *Certification of Range Management Consultants*, and maintains a list of those who meet the standards of this certification. A second certification program was recently initiated by the California chapter of SRM, and is known as the *Certified Range Manager* program. This is a state program to ensure competent training and experience for professional range managers in dealing with California rangelands. This program has recently been certified by the Professional Foresters Examining Committee of the state as an approved specialty in the Registered Professional Forester process. Individuals are encouraged to seek the advice of certified range mangers.

Additional Information

Determining the Value of Grazing Leases for Annual Rangeland — Available from: U.C. Division of Agriculture and Natural Resources, 6701 San Pablo Avenue, Oakland, CA 94608. Ask for Leaflet 21456. Send a check for $2.50 ($1.50 plus $1.00 shipping) payable to U.C Regents.

Developing Livestock Leases for Annual Grasslands — Available from: U.C. Division of Agriculture and Natural Resources, 6701 San Pablo Avenue, Oakland, CA 94608. Ask for Leaflet 21424. Send a check for $2.50 ($1.50 plus $1.00 shipping) payable to U.C. Regents.

SRM Certification of Range Management Consultants — List available from: Society for Range Management, 1839 York St., Denver, Colorado 80206.

Certified Range Manager Program — List of certified professionals available from: Dr. James Bartolome, Dept. of Environmental Science, Policy and Management, 145 Mulford Hall, University of California, Berkeley, CA 94720.

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Local Action to Conserve California's Oak Woodlands

Ten months later the committee developed through consensus a Board of Supervisor's Resolution and Voluntary Guidelines for the Oak Woodland Management in Tehama County. The resolution, which was subsequently adopted by the Tehama County Board of Supervisors, stated that all landowners with 40 or more acres in oak woodland habitat will be provided with a copy of the voluntary guidelines. The guidelines include suggestions for harvesting oak for firewood or range improvement as well as building within oak woodlands. Following are some suggestions developed by the committee for firewood harvest or range improvement:

- *your harvest should maintain an average leaf canopy of 30% or greater*
- *retain trees of all sizes and species represented at the site*
- *when safety permits, leave old hollow trees and those actively being used for nesting, roosting, or feeding*
- *where low fire risk and aesthetics allow, pile limbs and brush to provide wildlife cover*
- *where commercial or extensive harvest is being contemplated, seek professional advice from such resources as UC Cooperative Extension, Soil Conservation Service, California Department of Forestry and private consultants.*

The resolution also directed UC Cooperative Extension to coordinate with local agencies to provide workshops on oak woodland management and conservation to landowners, Realtors, developers, and community organizations.

The Tehama County Hardwood Advisory Committee is very pleased with the resolution and guidelines they produced, and they have solicited donations from individuals and community groups to finance the mailing of these documents to the 1,050 landowners in Tehama County's oak woodlands. The committee shall meet semi-annually to evaluate and substantiate the progress of their educational outreach in sustaining oak woodland habitat. During the course of the development of the resolution and guidelines in Tehama County, the Board of Supervisors in Glenn County solicited the Glenn County Resource Conservation District (RCD) to guide its local oak woodland conservation efforts. The Glenn County RCD and UC Cooperative Extension provided a forum for landowners and local resource agency personnel to meet and develop a plan for managing Glenn County's oak woodlands. The landowners decided to follow the lead of Tehama County. They established a Glenn County Oak Advisory Committee consisting of all oak rangeland owners and supported by advisory members from the local resource agencies. This committee then drafted a Board of Supervisor's resolution and guidelines similar to that developed in Tehama County. The Glenn County Board of Supervisors unanimously adopted this resolution.

. . .they are eager to promote educational efforts to encourage the sustainable harvests of the oak woodlands in their communities.

Landowners in both Tehama and Glenn counties initially were not eager to sit down and discuss oak woodland management, fearing that if they put something in writing that it would be turned into regulations by policy-makers. However, once they got involved they took ownership of the process and in the oak woodland management guidelines they developed. Now they are eager to promote educational efforts to encourage the sustainable harvests of the oak woodlands in their communities. They realize that education is the key to preventing regulation of oak woodland harvests in the future. Those involved in the Tehama and Glenn Counties Oak Advisory Committees were grateful to have had the opportunity to develop a local solution for a local concern.

YES! Please place my name on the mailing list for *Quercus*, the newsletter for Planning in California's Oak Woodlands.

Name: _____

Address: _____

City: _____ State: _____

ZIP: _____

Clip and mail to the Integrated Hardwood Range Management Program, Department of Environmental Science, Policy and Management,160 Mulford Hall, University of California, Berkeley, CA 94720 or FAX to: Joni Rippee, (510) 643-5438.

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