PWA

ALAMEDA COUNTY PUBLIC WORKS AGENCY
399 ELMHURST STREET, HAYWARD, CA. 94544

PROJECT REPORT

The Lewelling Boulevard/East Lewelling Boulevard Improvement From Hesperian Boulevard to Mission Boulevard (SR-185)
Eden Township, Alameda County

Donald J. LaBelle, Director
Daniel Woldesenbet,Ph.D., P.E.,County Engineer
March 2004

Alameda County Public Works Agency

Project Report for The Lewelling Boulevard/East Lewelling Boulevard Improvement From Hesperian Boulevard to Mission Boulevard (SR-185) Eden Township, Alameda County

REGISTERED PROFESSIONAL ENGINEER
DANIEL WOLDESENBET
No. 60306
Exp. 6/30/2004
CIVIL
STATE OF CALIFORNIA

Daniel Woldesenbet, Ph.D., P.E.
County Engineer
Civil Engineer No. 60306
Expiration Date: June 30, 2004

Job No. R23289 & R23301
Specification No. 1926
March 2004

ALAMEDA COUNTY Metric

PROJECT REPORT FOR
THE LEWELLING BOULEVARD/EAST LEWELLING BOULEVARD IMPROVEMENT
FROM HESPERIAN BOULEVARD TO MISSION BOULEVARD (SR-185)
EDEN TOWNSHIP, ALAMEDA COUNTY

RECOMMENDATION

We recommend that **Alternative 5** be the preferred alternative for the Lewelling Boulevard/East Lewelling Boulevard Improvement Project, Phase I and Phase II. The project limit for Phase I is from Hesperian Boulevard to Meekland Avenue. The Phase II project limit is from Meekland Avenue to Mission Boulevard. If only limited funding is available for Phase II, we recommend that Phase II construction be phased by constructing Alternative 5a.

BACKGROUND

Lewelling Boulevard is an east-west arterial route extending between two main north-south arterial routes, namely Hesperian Boulevard and Mission Boulevard, in San Lorenzo. Lewelling Boulevard travels parallel to I-238, and has a direct access to eastbound I-238 via on and off ramps just west of Mission Boulevard. To the west of Hesperian Boulevard, Lewelling Boulevard has direct access to and from I-880. Lewelling Boulevard's roadway section east of Hesperian Boulevard is mainly a narrow two-lane street through commercial and residential uses. The existing roadway cross-section is not capable of accommodating current and projected future traffic demands. Lewelling Boulevard also has high collision rates. Along portions of Lewelling Boulevard, limited sidewalks make it necessary for pedestrians to walk in the roadway. Traffic and safety issues are especially critical along Lewelling which serves a mix of business patrons, residents and churchgoers, as well as a number of school children walking to San Lorenzo High School, St. John's Catholic Elementary School, and other nearby schools.

Alameda County has long considered Lewelling Boulevard an important arterial roadway to improve. In the mid-1990's the Alameda County Planning Department led the development of a specific plan published in 1995, *Ashland Cherryland Business Districts Specific Plan*. In 2000 voters approved the extension of the half-cent sales tax program (Measure B) for transportation improvements in Alameda County. The Measure B program is administered by the Alameda County Transportation Improvement Authority (ACTIA). The program funded $9.8 million dollars (97/98 dollars) for improving Lewelling Boulevard/East Lewelling Boulevard between Hesperian Boulevard and Meekland Avenue (Phase I). Alameda County is the sponsor of the Lewelling Boulevard (Phase I) improvement project. The improvement of Lewelling Boulevard between Meekland Avenue and Mission Boulevard (Phase II) is not funded at this time.

In late summer 2002, Alameda County initiated a traffic engineering study for the Lewelling Boulevard improvement project. TJKM Transportation Consultants was retained by the County to perform the traffic study. The traffic study evaluated the existing conditions of Lewelling Boulevard, estimated its potential future demand based on the results of the travel demand forecast model, summarized community stakeholder input, and provided recommended improvement alternatives/options based on the findings. The traffic study was completed in September 2003. TJKM's Traffic Study Final Report is included in Appendix F.

Traffic collision data for a period of three years at intersections and roadway segments along Lewelling Boulevard were tabulated and are found in Chapter 2 of the Traffic Study Final Report. Collision statistics, collision diagrams, and accident analyses are also included. According to the Report, Lewelling Boulevard has higher than normal accident rates west of Ashland Avenue and at the intersection of Lewelling Boulevard and Hesperian Boulevard.

The 85th percentile speed on Lewelling Boulevard is between 35 and 40 miles per hour (mph). The design speed for this project is 40 mph.

DESIGN ALTERNATIVES

Alternative 1: No Project Alternative

This alternative will provide no improvements to Lewelling Boulevard/East Lewelling Boulevard. The estimated construction cost is $0.

The advantages and disadvantages of Alternative 1 are listed as follows:

Advantages:
a. no construction cost to the County
b. no traffic interruptions
c. no environmental impact
d. no right-of-way acquisition

Disadvantages:
a. no improvement to the roadway
b. County may lose Measure B funds
c. traffic condition will continue to get worse
d. continuous sidewalks for pedestrians will not be constructed

Alternative 2: Four-Lane Alternative

Alternative 2 will provide four travel lanes with standard lane width (3.6 m) and a center two-way left turn lane for both Phase I & Phase II. Improvements will also include a Class II bicycle lane, on-street parking, and 2.4 m sidewalks on each side of the roadway for both Phase I & Phase II. This is the ultimate alternative as discussed in the *Ashland Cherryland Business Districts Specific Plan*.

The advantages and disadvantages of Alternative 2 are listed as follows:

Advantages:
- a. provides Class II bike lane and on-street parking
- b. provides continuous wide sidewalk (2.4 m) to allow space for landscaping
- c. provides standard lane width (3.6 m)
- d. maintains left turn access to abutting properties in most locations
- e. minimizes existing and projected traffic congestion
- f. provides for significant reduction in collisions
- g. provides safer pedestrian circulation

Disadvantages:
- a. requires extensive property acquisition including relocation of many businesses and residents
- b. very high right-of-way cost (see estimates below)
- c. the total project cost (including right-of-way cost) exceeds the available funding for the project

The estimated construction and right-of-way costs of Alternative 2 are as follows:

	(2003 dollars)	(2005 dollars*)	(2008 dollars*)
Phase I construction cost:	$ 7,910,000	-	$10,100,000
Phase I right-of-way cost:	$24,000,000	$26,460,000	-
Phase II construction cost:	$ 6,390,000	-	$ 8,160,000
Phase II right-of-way cost:	$28,000,000	$30,870,000	-

* 5% annual inflation is used

Alternative 3: Four-Lane Alternative With Reduced Lane Widths

Phase I of Alternative 3 will provide four travel lanes with a center two-way left turn lane east of the railroad tracks and raised medians with left turn pockets west of the railroad tracks. 3 m sidewalks will be provided on both sides of the roadway within Phase I limits. Lane widths in some locations of Phase I will be reduced to 3.3 m. Phase II will provide two 3.4 m travel lanes with a center two-way left turn lane, and parking lanes with room for Class III bike routes. 1.5 m sidewalks will be provided on both sides of the roadway within Phase II limits.

The advantages and disadvantages of Alternative 3 are listed as follows:

Advantages:
- a. requires much less property acquisition than Alt. 2
- b. right-of-way costs are much less than Alt. 2
- c. provides area within Phase II limits to allow space for on-street parking and bicycles (Class III)
- d. provides wider sidewalk within Phase I limit

e. maintains left turn access to abutting properties in most locations
f. minimizes existing and projected traffic congestion
g. provides for significant reduction in collisions
h. provides safer pedestrian circulation
i. allows for on-street parking within Phase II limit

Disadvantages:
a. does not provide Class II bike lanes
b. does not provide on-street parking within Phase I
c. lane widths in some locations are reduced

The estimated construction and right-of-way costs of Alternative 3 are as follows:

	(2003 dollars)	(2005 dollars*)	(2008 dollars*)
Phase I construction cost:	$6,800,000	-	$8,680,000
Phase I right-of-way cost:	$4,370,000	$4,820,000	-
Phase II construction cost:	$5,190,000	-	$6,620,000
Phase II right-of-way cost:	$3,000,000	$3,310,000	-

* 5% annual inflation is used

Alternative 4: Four-Lane Alternative With Bike Lanes and Reduced Lane Widths

Alternative 4 is identical to Alternative 3 with the exception that Alternative 4 will provide a Class II bike lane on each side of the roadway in Phase I and Phase II.

The advantages and disadvantages of Alternative 4 are listed as follows:

Advantages:
a. requires much less property acquisition than Alt. 2
b. right-of-way cost is much less than Alt. 2
c. provides Class II bike lanes for both Phase I & Phase II
d. provides wider sidewalks within Phase I limits
e. maintains left turn access to abutting properties in most locations
f. minimizes existing and projected traffic congestion
g. provides for significant reduction in collisions
h. provides safer pedestrian circulation
i. provides on-street parking within Phase II limits

Disadvantages:
a. does not provide on-street parking in Phase I
b. lane widths in some locations are reduced

The estimated construction and right-of-way costs of Alternative 4 are as follows:

	(2003 dollars)	(2005 dollars*)	(2008 dollars*)
Phase I construction cost:	$6,810,000	-	$8,690,000
Phase I right-of-way cost:	$4,650,000	$5,130,000	
Phase II construction cost:	$5,200,000	-	$6,640,000
Phase II right-of-way cost:	$3,000,000	$3,310,000	-

* 5% annual inflation is used

Alternative 5: Four-Lane Alternative With Bike Lanes, Planting Strip/Tree Wells, and Reduced Lane Widths

Alternative 5 is identical to Alternative 4 with two major exceptions. The first exception is that Alternative 5 will provide 1.2 m planting strips and/or tree wells within the proposed sidewalk area in Phase I. The second exception is that the lane widths of all through lanes in Phase I will be reduced to 3.3 m.

The advantages and disadvantages of Alternative 5 are listed as follows:

Advantages:

a. identical to Alternative 4 advantages
b. provides planting strips and/or tree wells within sidewalk areas for Phase I
c. proposed planting strip/tree wells in Phase I provides buffer zone between motorists and pedestrians
d. right-of-way cost is less than Alt. 4

Disadvantages:

a. identical to Alternative 4 disadvantages
b. sidewalk width reduced to 1.8 m to include planting strips and/or tree wells in Phase I

The estimated construction and right-of-way costs of Alternative 5 are as follows:

	(2003 dollars)	(2005 dollars*)	(2008 dollars*)
Phase I construction cost:	$6,780,000	-	$8,650,000
Phase I right-of-way cost:	$4,400,000	$4,850,000	-
Phase II construction cost:	$5,200,000	-	$6,640,000
Phase II right-of-way cost:	$3,000,000	$3,310,000	-

* 5% annual inflation is used

Alternative 5a: Four-Lane Alternative With Bike Lanes, Planting Strips/Tree Wells, Reduced Lane Widths, and Limited Improvement in Phase II

Alternative 5a is identical to Alternative 5 except that Alternative 5a only acquires right-of-way and improves the north side of East Lewelling Boulevard in Phase II resulting in reduced construction and right-of-way costs for Phase II. Right-of-way acquisition and improvements on the south side of East Lewelling Boulevard in Phase II are deferred to a later date. Alternative 5a provides two 3.6 m travel lanes without a center two-way left turn lane in Phase II. Alternative 5a also provides a 1.5 meter sidewalk on the north side of the roadway in Phase II. Existing sidewalk of the south side of the roadway will remain. Class II bike lane and on-street parking will be provided on each side of the roadway in Phase II.

The advantages and disadvantages of Alternative 5a are listed as follows:

Advantages:

a. identical to Alternative 5 advantages
b. construction and right-of-way costs are lower than Alternative 5 in Phase II
c. no right-of-way acquisition on the south side of the roadway in Phase II

Disadvantages:

a. identical to Alternative 5 disadvantages
b. no center-two way left turn lane in Phase II
c. no new sidewalk on the south side of the roadway in Phase II

The estimated construction and right-of-way costs of Alternative 5a are as follows:

	(2003 dollars)	(2005 dollars*)	(2008 dollars*)
Phase I construction cost:	$6,780,000	-	$8,650,000
Phase I right-of-way cost:	$4,400,000	$4,850,000	-
Phase II construction cost:	$4,290,000	-	$5,480,000
Phase II right-of-way cost:	$2,830,000	$3,120,000	-

*5% annual inflation is used

DISCUSSION OF ALTERNATIVES

The five alternatives are summarized in the following tables:

Phase I Portion

Alt. #	Side-walk Width (m)	Planting Strip/ Tree-wells (m)	On-Street Parking (m)	Bike Lane Width (m)	Lane Width (m)	Median Island/ Two-way Left Turn Lane	Curb to Curb width (m)	Right-of-way Width (m)	Right-of-way Cost Estimate (03/04 dollars)	Construc-tion Cost Estimate (03/04 dollars)
1	existing (varies)	0	Existing	0	existing (varies)	none	existing (varies)	existing (varies)	$0	$0
2	2.4	0	2.4	1.5	3.6	2-way left turn lane only	25.8	30.6	$24,000,000	$7,910,000
3	3	0	0	0	3.3 to 4.9	median island & 2-way left turn lane	15 to 22.4	21.0 to 28.4	$4,370,000	$6,800,000
4	3	0	0	1.2 and 1.5	3.3 to 3.6	median island & 2-way left turn lane	17.1 to 22.8	23.1 to 28.8	$4,650,000	$6,810,000
5 & 5a	1.8	1.2	0	1.2 and 1.5	3.3 to 3.6	median island & 2-way left turn lane	16.5 to 22.8	22.5 to 28.8	$4,400,000	$6,780,000

Phase II Portion

Alt. #	Side-walk Width (m)	Planting Strip/ Tree-wells (m)	On-Street Parking (m)	Bike Lane Width (m)	Lane Width (m)	Median Island/ Two-way Left Turn Lane	Curb to Curb width (m)	Right-of-way Width (m)	Right-of-way Cost Estimate (03/04 dollars)	Construct-tion Cost Estimate (03/04 dollars)
1	existing (varies)	0	existing (varies)	0	existing (varies)	None	existing (varies)	existing (varies)	$0	$0
2	2.4	0	2.4	1.5	3.6	2-way left turn lane only	25.8	30.6	$28,000,000	$6,390,000
3	1.5	0	3.6	Class III	3.4 to 3.6	2-way left turn lane only	17.6	20.6	$3,000,000	$5,190,000
4	1.5	0	2.2	1.5	3.3 to 3.6	2-way left turn lane only	17.6	20.6	$3,000,000	$5,200,000
5	1.5	0	2.2	1.5	3.3 to 3.6	2-way left turn lane only	17.6	20.6	$3,000,000	$5,200,000
5a	1.5 (north side only)	0	2.2	1.5	3.6	None	14.6 & varies	17.6	$2,830,000	$4,290,000

The alternatives presented in this report were developed as a result of the traffic study performed by TJKM Transportation Consultants. These alternatives were based on traffic forecasts, traffic and pedestrian safety, right-of-way impacts, and community input. TJKM has conducted extensive and detailed analyses in the traffic study. Operational Level of Services (LOS) analyses under existing conditions were performed for 25 intersections and roadway segments within the project limits. Future traffic volumes were forecasted using the Alameda County Congestion Management Agency (ACCMA) countywide model.

Of the five alternatives, **Alternative 5** is the preferred alternative. **Alternative 1** (No Project) would not provide any improvement to Lewelling Boulevard. Although **Alternative 1** has no right-of-way and construction costs, the County may lose Measure B funds for Phase I of this project if Alternative 1 is selected. Also, improvements for pedestrians and bicyclists would not be made.

Although **Alternative 2** provides four standard travel lanes along with bike lanes, on-street parking, and wide sidewalks in both phases, many building structures along Lewelling Boulevard would be impacted under this alternative. The right-of-way costs are extremely high with total project cost exceeding the available project funding. **Alternative 2** is the ultimate alternative as discussed in the *Ashland Cherryland Business Districts Specific Plan*.

To minimize right-of-way impacts on Lewelling Boulevard, **Alternative 3** and **Alternative 4** provide four reduced width travel lanes in Phase I and two travel lanes in Phase II. The right-of-way costs for **Alternatives 3** and **Alternative 4** are much less than the right-of-way costs for **Alternative 2**. According to the traffic study, **Alternatives 3 and 4** meet the traffic demand for existing and future conditions on Lewelling Boulevard. The main difference between these two alternatives is that **Alternative 4** provides bike lanes while **Alternative 3** provides wider travel lanes with no bike lanes.

Alternative 5 is essentially the same as **Alternative 4** except that **Alternative 5** has planting strips and/or tree wells within the sidewalk area in Phase I, as well as lane width reduction in all through lanes in Phase I. The proposed planting strips and/or tree wells would allow space for landscape improvements on Lewelling Boulevard and at the same time providing a buffer zone between motorists and pedestrians. With the proposed bike lanes, this alternative would encourage bicycle usage on Lewelling Boulevard. Right-of-way cost for **Alternative 5** (Phase I) is less than for **Alternatives 3 and 4** due to the reduced through lane width in Phase I. **Alternative 5** meets the future traffic demand and improves traffic, bicyclist, and pedestrian safety on Lewelling Boulevard. **Alternative 5** is recommended to be the preferred alternative for this project.

Alternative 5a is exactly the same as Alternative 5 in Phase I of the project. Alternative 5a is included to provide a lower cost option for limited improvements in Phase II of the project. The difference between Alternative 5 and Alternative 5a is that Alternative 5a will not provide a left turn lane, and the existing sidewalk on the south side of the roadway will not be improved. By leaving the south side sidewalks in their existing state, no additional right-of-way is required on that side of the roadway. **Alternative 5a** is not recommended if sufficient funding can be secured for Phase II of the project.

DESIGN EXCEPTIONS

To minimize the impacts to building structures along Lewelling Boulevard/East Lewelling Boulevard, lane widths for traffic lanes, bike lanes, and parking lanes, as well as median island widths at various locations will be reduced from standard widths to accommodate all proposed improvements on this project.

The design elements that require design exceptions are as follows:

1. Bike Lane

Alt. #	Phase	Limits Along Lewelling/East Lewelling Blvd.	Proposed Bike Lane Width (m)	Standard Bike Lane Width (Subdivision Guidelines[1]) (m)
2	1 & 2	Hesperian Blvd. to Mission Blvd.	1.5	1.8
4, 5, & 5a	1	Hesperian Blvd. to Tracy St.	1.2	1.8
4, 5, & 5a	1 & 2	Tracy St. to Mission Blvd.	1.5	1.8

2. On-street Parking Lane

Alt. #	Phase	Limits Along Lewelling/East Lewelling Blvd.	Proposed Lane Width (m)	Standard Lane Width (Subdivision Guidelines[1]) (m)
4, 5, & 5a	2	Meekland Ave. to Mission Blvd.	2.2	2.4

3. Through & Turn Lane

Alt. #	Phase	Limits Along Lewelling/East Lewelling Blvd.	Proposed Lane Width (m)	Standard Lane Width (Subdivision Guidelines[1]) (m)
3	1 & 2	Hesperian Blvd. to Via Granada Langton Way to Mission Blvd	3.3	3.6
4, 5, & 5a	1 & 2	Hesperian Blvd. to Via Granada Meekland Ave. to Mission Blvd.	3.3	3.6
5 & 5a	1	Via Granada to Meekland Ave. (through lane only)	3.3	3.6

4. Curb Lane

Alt. #	Phase	Limits Along Lewelling/East Lewelling Blvd.	Proposed Lane Width (m)	Standard Lane Width (Subdivision Guidelines[1]) (m)
3	1	Hesperian Blvd. to Via Granada	3.3	4.2

5. Lane Adjacent to Median Island

Alt. #	Phase	Limits Along Lewelling/East Lewelling Blvd.	Proposed Lane Width (m)	Standard Lane Width (Subdivision Guidelines[1]) (m)
3 & 4	1	Hesperian Blvd. to Via Granada	3.3	4.0
3 & 4	1	Via Granada to Ashland Ave.	3.6	4.0
5 & 5a	1	Hesperian Blvd. to Ashland Ave.	3.3	4.0

[1] Alameda County Subdivision Design Guidelines, August 1990

INTERSECTION SIGNAL MODIFICATIONS

As part of improvements to Lewelling Boulevard/East Lewelling Boulevard, the traffic signal system will be modified at the following signalized intersections:

Lewelling Boulevard/Hesperian Boulevard (Phase I)
East Lewelling Boulevard/Via Granada (Phase I)
East Lewelling Boulevard/Ashland Avenue (Phase I)
East Lewelling Boulevard/Meekland Avenue (Phase I)
East Lewelling Boulevard/I-238 Eastbound On-ramp (Phase II)
East Lewelling Boulevard/Mission Boulevard (Phase II)

STREETSCAPE/LANDSCAPE IMPROVEMENTS

As part of improvements to Lewelling Boulevard/East Lewelling Boulevard, streetscape and landscape work will be included in this project. The County will hire a landscape consultant to provide conceptual and detailed landscape and streetscape design.

COMMUNITY OUTREACH

This project has been presented to various community groups. The County conducted three community meetings to inform and solicit input from the community regarding this project. Stakeholders in the community were also interviewed. Updated information and materials about this project are provided on the County website. The County also responded to questions and comments from the community via letters, emails and telephone calls. An additional community meeting is planned during the public review period of the draft environmental document.

COORDINATION WITH CITY OF SAN LEANDRO AND CALTRANS

The City of San Leandro has a Measure B project improving the intersection of Hesperian Boulevard and Lewelling Boulevard. The City's project consists of adding one southbound right-turn lane on Hesperian Boulevard, as well as providing dual left-turn lanes on the eastbound approach on Lewelling Boulevard. The County will coordinate with the City of San Leandro on improvements to the Hesperian Boulevard/Lewelling Boulevard intersection. The County will also coordinate with Caltrans on the I-238 Widening Project, which is tentatively scheduled for construction in summer of 2005.

COORDINATION WITH THE UNION PACIFIC RAILROAD

There are two railroad crossings within the Lewelling Boulevard/East Lewelling Boulevard project limits. One is in Phase I and the other is in Phase II. Both crossings will be affected and will be widened. The County will coordinate with the Union Pacific Railroad Company on crossing widening and signal modifications.

ENVIRONMENTAL REVIEW AND DOCUMENT PREPARATION

An environmental consultant has been retained by the County to perform the necessary environmental reviews needed to determine project impacts, and to prepare documents in accordance to California Environmental Quality Act (CEQA). The consultant selection has been completed. Prior to start of environmental document preparation, contract negotiation with the selected consultant and Board approval need to be done. It is assumed that an Environmental Impact Report (EIR) will be required for this project.

RIGHT-OF-WAY

Right-of-way will be needed for both phases of the project. This process will begin upon completion of the environmental document. For the various alternatives discussed in this report, the cost of right-of-way ranges from $4,370,000 to $24,000,000 for Phase I, and from $2,830,000 to $28,000,000 for Phase II. The right-of-way costs for each alternative are listed in the Design Alternatives Section and Appendix D of this report.

UNDERGROUND UTILITY DISTRICT (UUD)

The County proposes to underground utilities along Lewelling Boulevard as part of the improvements to Lewelling Boulevard. A separated UUD needs to be formed for each phase of the project. The County plans to use Rule 20A funds from Public Utility Commission (PUC) for undergrounding utilities for this project. The County will coordinate with the utility companies to develop a detailed schedule and cost estimates for the construction of the UUD. The following is an outline of major steps necessary to complete the UUD process:

I. Formation of an UUD

- The County prepares and files with the Board a project report and a boundary map of the proposed UUD.
- The Board adopts a resolution of intention to establish the underground utility district.
- A public hearing is held at the Board's chambers.
- Homeowners along Lewelling Boulevard vote on the formation of the UUD. Two third of YES votes are required for passing.
- The Board, by ordinance, establishes the proposed UUD.

II. Underground Utility Design

- The County works with the various utility companies (PG&E, SBC, & Comcast) on the underground utility design.

III. Undergrounding of Utilities

- The various utility companies begin trenching and installing conduits, cables, and other various underground utility structures.
- Property owners are responsible for converting and undergrounding the utilities within their properties, and making the final connection to the new underground utility system.
- Property owners may experience on average, one hour or less of interrupted service during the actual connection to the new underground utility system.

FUNDING

The project funding is divided into two phases. Phase I (from Hesperian Boulevard to Meekland Avenue) is funded by Alameda County Transportation Improvement Authority (ACTIA) as a Measure B project. Phase II (from Meekland Avenue to Mission Boulevard) is unfunded at this time. The County will pursue various funding sources including federal funds for Phase II.

PERMITS

Permits will be needed from Caltrans, City of San Leandro, and the California Regional Water Quality Control Board. Temporary Construction Easement (TCE) and Permit to Enter to Do Work will also be needed from property owners and business owners along Lewelling Boulevard. Cooperative agreements and railroad agreements may be needed as well.

SCHEDULE

A tentative project schedule for Phase I has been established to achieve environmental clearance in the spring of 2005. The right-of-way acquisition process is expected to begin in 2005 and end in 2007. The UUD construction for Phase I is scheduled to start in 2007. Phase I is tentatively scheduled for advertisement for construction in 2008.

Report prepared by

Ken Lee 4/21/04

Ken Lee
Associate Engineer

Date

Reviewed by

Jas Chu 4/22/04

James Chu
Supervising Civil Engineer

Date

Approval Recommended by

Art Carrera 4-22-04

Arthur Carrera
Road Program Manager

Date

4/23/04

George Sukkar

Deputy Director, Engineering & Construction

Date

APPENDICES

Appendix A - Location Map

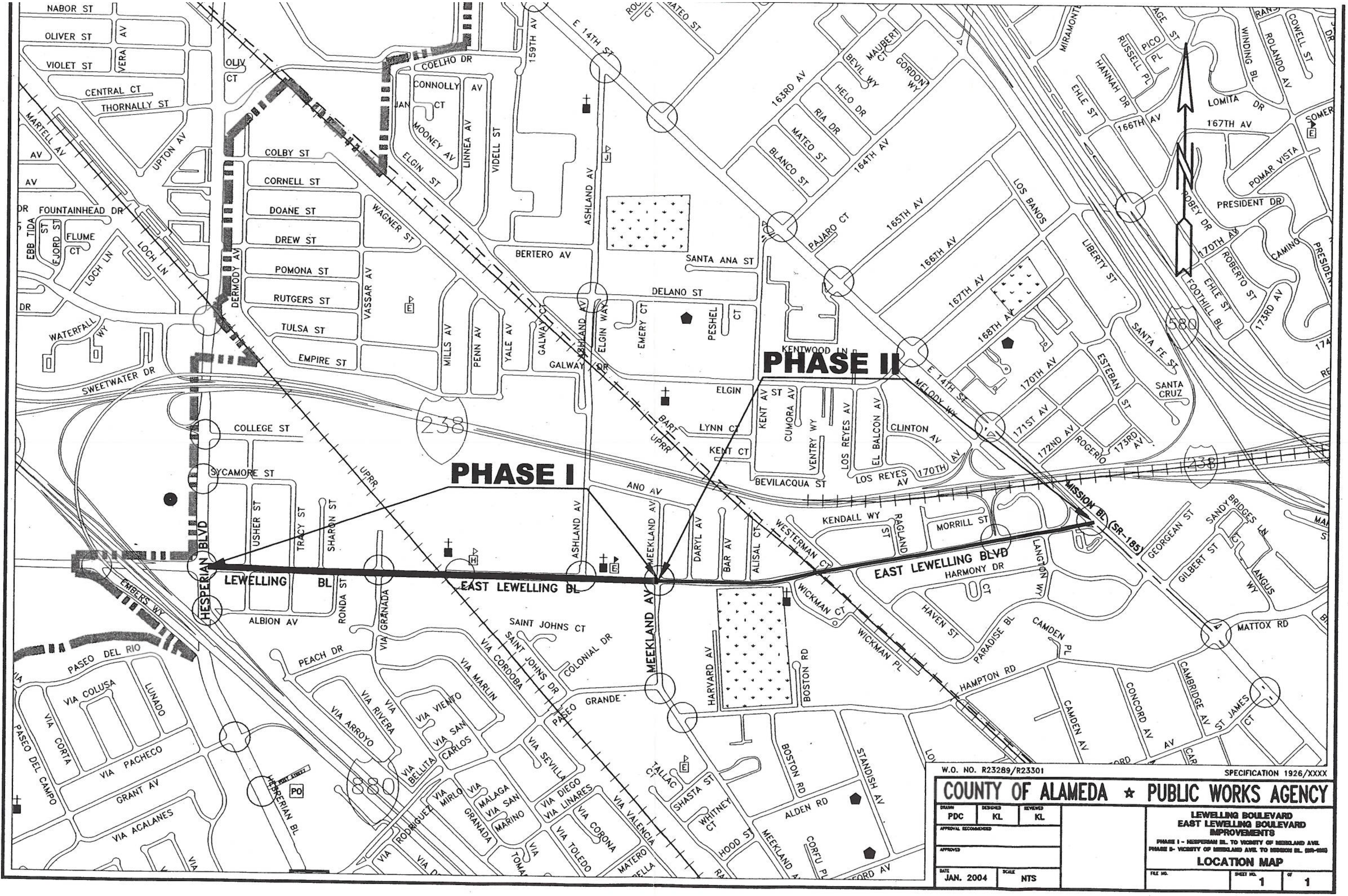
Appendix B - Alternative Exhibits

Appendix C - Construction Cost Estimates

Appendix D - Right-of-Way Cost Estimates

Appendix E - Consultants and County Staff Cost Estimates

Appendix F (Volume 2) - Traffic Study Final Report



W.O. NO. R23289/R23301

SPECIFICATION 1926/XXXX

COUNTY OF ALAMEDA ☆ PUBLIC WORKS AGENCY

DRAWN	DESIGNED	REVIEWED
PDC	KL	KL

APPROVAL RECOMMENDED

APPROVED

DATE JAN. 2004

SCALE NTS

LEWELLING BOULEVARD
EAST LEWELLING BOULEVARD
IMPROVEMENTS
PHASE I - HESPERIAN BL. TO VICINITY OF MEEKLAND AVE.
PHASE II- VICINITY OF MEEKLAND AVE. TO MISSION BL. (SR-185)

LOCATION MAP

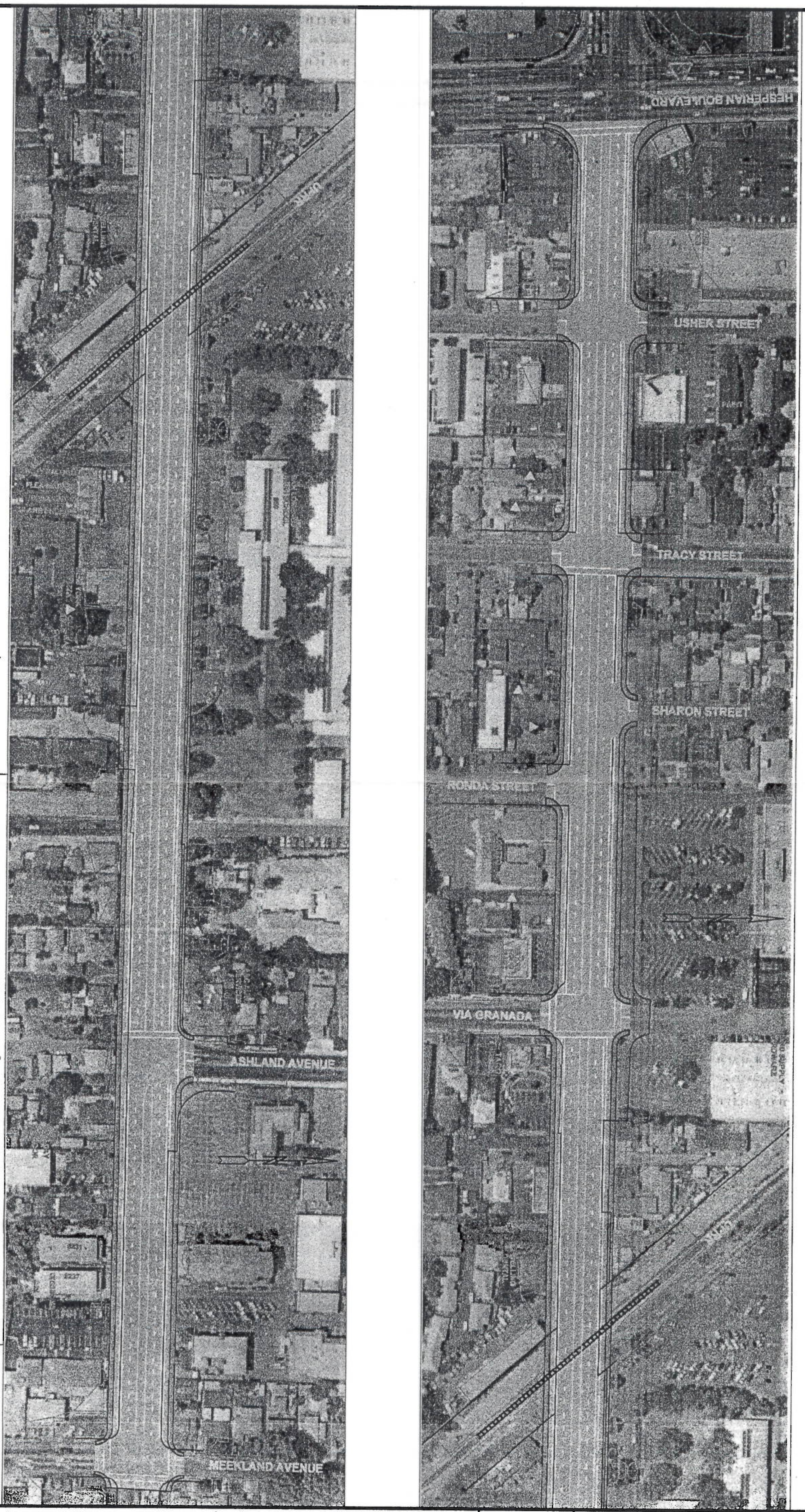
FILE NO.

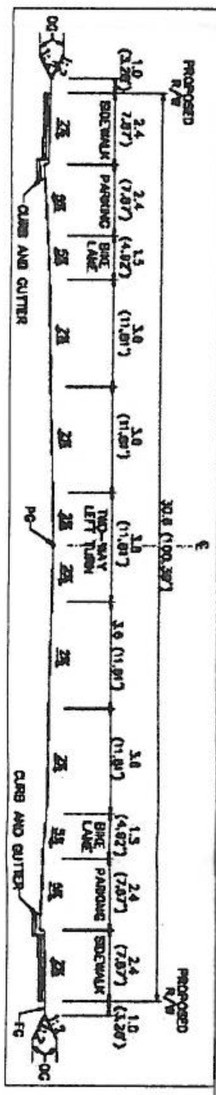
SHEET NO. 1 OF 1

N:\road\r23289\Exhibits\location map-ACTIA.dwg
PLOT SCALE: 1 = 1

R	D BY:	DATE:		R	D BY:	DATE:
CONSTRUCTION				SURVEY		
MAINTENANCE				TRAFFIC		
REAL ESTATE				ENVIRONMENTAL		

N:\ROAD\r23289\Alternative Designs\presentation\alt2.dwg 1-14-04 01:59:00 PM paulc
PLOT SCALE: 1000 = 1





FOR REDUCED METRIC PLANS 0 50 mm

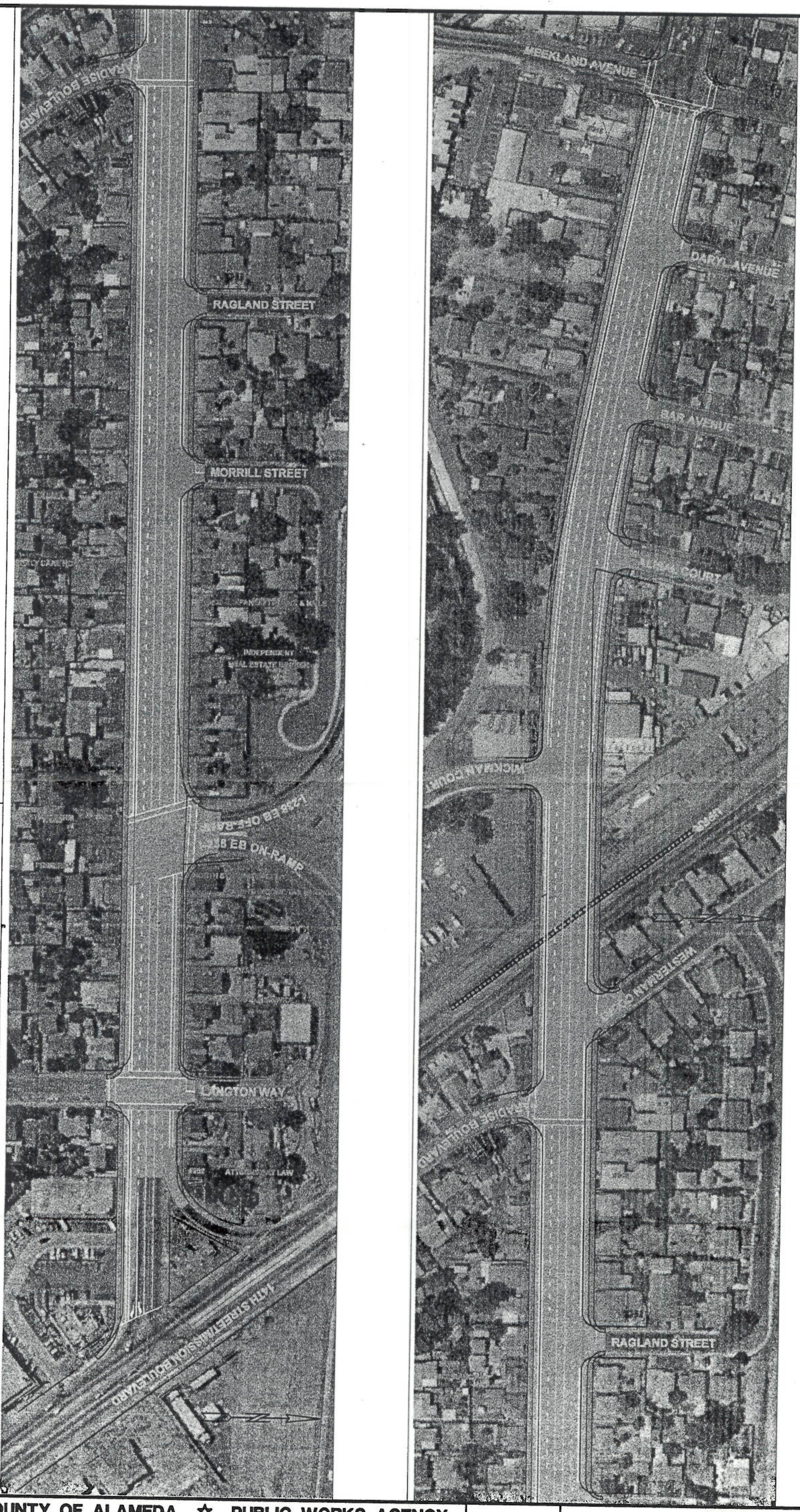
ALAMEDA COUNTY Metric
UNITS ARE IN METERS UNLESS OTHERWISE NOTED.

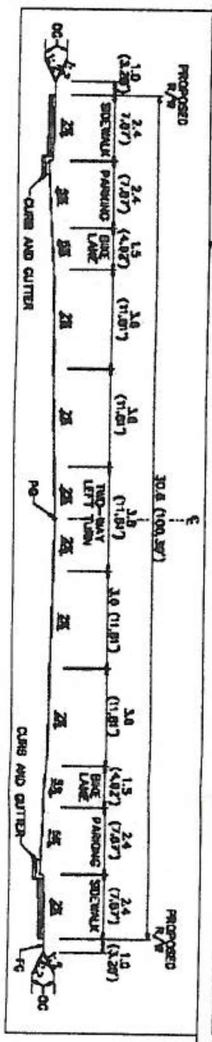
WORK ORDER NO. R23289	COUNTY OF ALAMEDA ☆ PUBLIC WORKS AGENCY			
SPECIFICATION NO. 1926	LEWELLING BOULEVARD EAST LEWELLING BOULEVARD IMPROVEMENTS PHASE I ALTERNATIVE 2	DRAWN PAUL D. CRAWFORD		
SHEET NO. 1 OF 1		DESIGNED KEN LEE		
FILE NO.		CHECKED KEN LEE	DATE JAN. 2004	SCALE NTS

REVISIONS				
NO.	DESCRIPTION	BY	DATE	APPV'D
5				
4				
3				
2				
1				

	D BY:	DATE:		D BY:	DATE:
CONSTRUCTION			SURVEY		
MAINTENANCE			TRAFFIC		
REAL ESTATE			ENVIRONMENTAL		

N:\ROAD\r23289\Alternative Designs\presentation\alt2.dwg 1-14-04 02:03:40 PM paulc
PLOT SCALE: 1000 = 1





FOR REDUCED METRIC PLANS 0 50 mm

UNITS ARE IN METERS
UNLESS OTHERWISE NOTED.

FILE NO.	SHEET NO.	SPECIFICATION NO.	WORK ORDER NO.			
	1 OF 1	XXXX	R23301	**COUNTY OF ALAMEDA ☆ PUBLIC WORKS AGENCY** **LEWELLING BOULEVARD EAST LEWELLING BOULEVARD** IMPROVEMENTS PHASE II ALTERNATIVE 2	DRAWN PAUL D. CRAWFORD DESIGNED KEN LEE CHECKED KEN LEE	DATE JAN. 2004 SCALE NTS

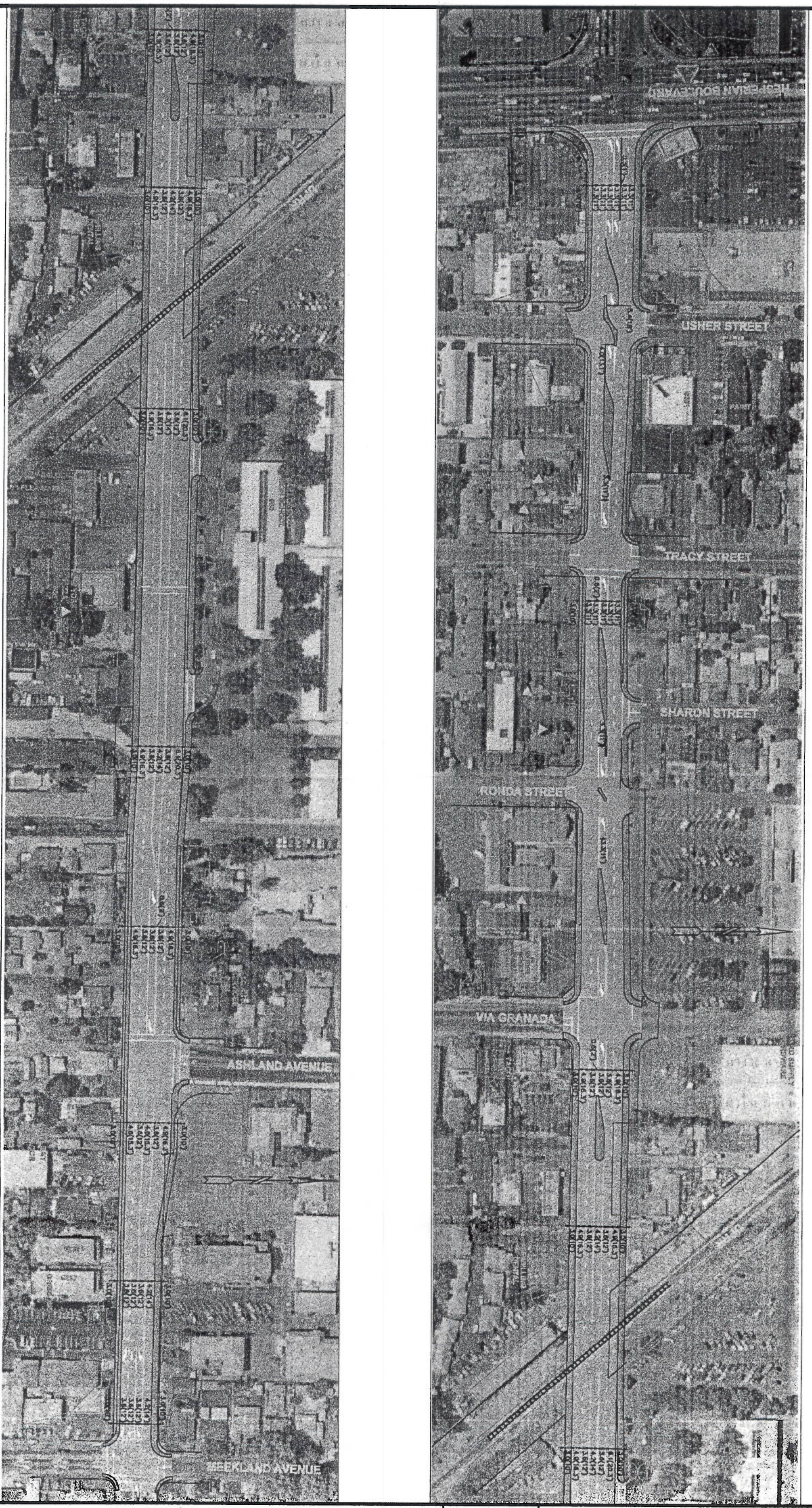
REVISIONS

NO.	DESCRIPTION	BY	DATE	APPV'D
5				
4				
3				
2				
1				

	REVIEWED BY:	DATE:		REVIEWED BY:	DATE:
CONSTRUCTION			SURVEY		
MAINTENANCE			TRAFFIC		
REAL ESTATE			ENVIRONMENTAL		

N:\ROAD\r23289\Alternative Designs\presentation\alt3.dwg 1-14-04 01:21:26 PM paulc
PLOT SCALE: 1000 = 1

FOR REDUCED METRIC PLANS 0 50 mm



ALAMEDA COUNTY
Metric
UNITS ARE IN METERS
UNLESS OTHERWISE NOTED.

COUNTY OF ALAMEDA ☆ PUBLIC WORKS AGENCY

LEWELLING BOULEVARD
EAST LEWELLING BOULEVARD
IMPROVEMENTS
PHASE I
ALTERNATIVE 3

DRAWN: PAUL D. CRAWFORD
DESIGNED: KEN LEE
CHECKED: KEN LEE
DATE: JAN. 2004
SCALE: NTS

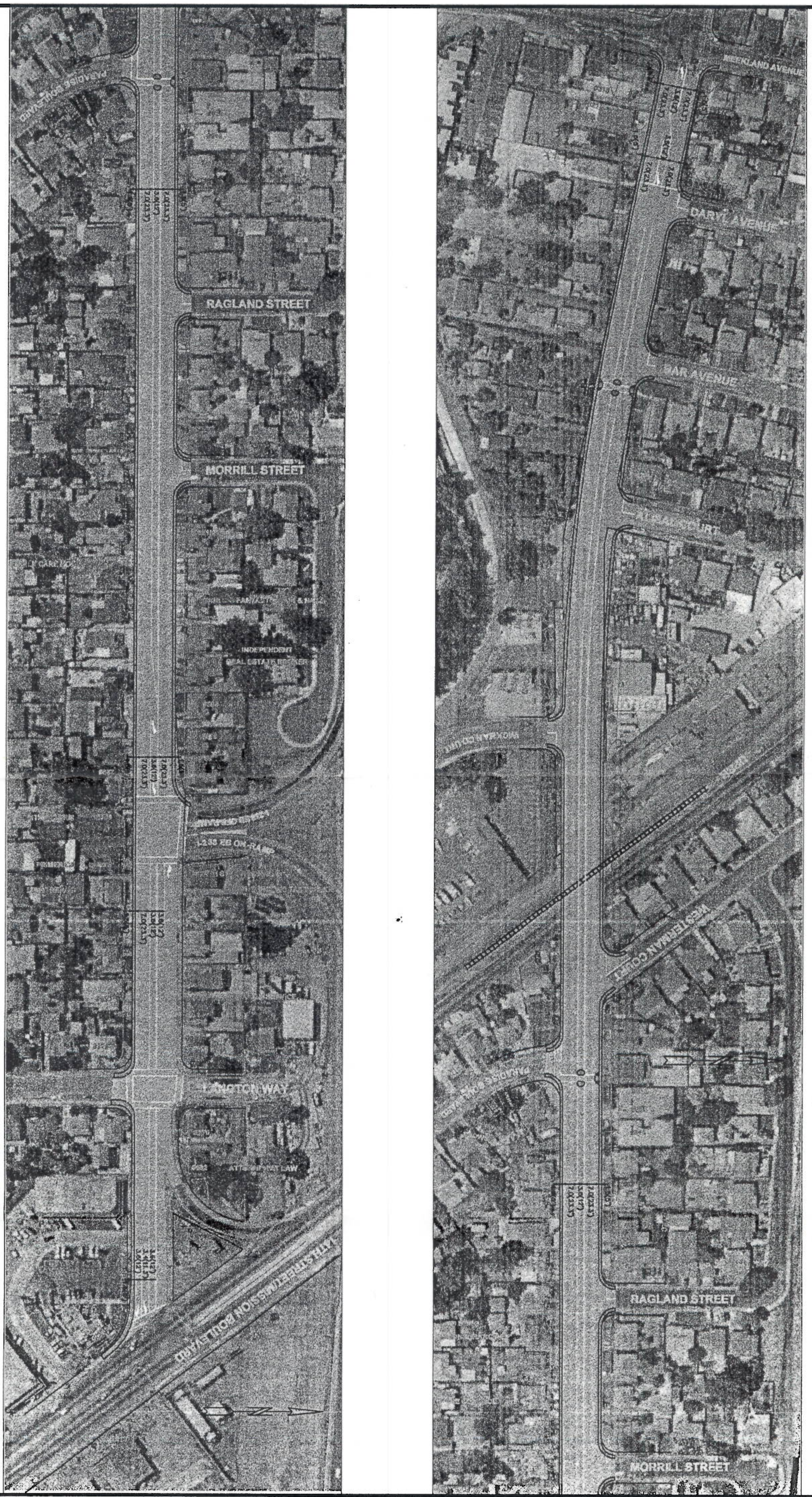
WORK ORDER NO. R23289
SPECIFICATION NO. 1926
SHEET NO. 1 OF 1
FILE NO.

REVISIONS

NO.	DESCRIPTION	BY	DATE	APPV'D
5				
4				
3				
2				
1				

CONSTRUCTION			SURVEY		
MAINTENANCE			TRAFFIC		
REAL ESTATE			ENVIRONMENTAL		

N:\ROAD\r23289\Alternative Designs\presentation\alt3.dwg 1-14-04 01:38:56 PM paulc
PLOT SCALE: 1000 = 1



FOR REDUCED METRIC PLANS 0 50 mm

ALAMEDA COUNTY Metric
UNITS ARE IN METERS UNLESS OTHERWISE NOTED.

COUNTY OF ALAMEDA ☆ PUBLIC WORKS AGENCY

LEWELLING BOULEVARD
EAST LEWELLING BOULEVARD
IMPROVEMENTS
PHASE II
ALTERNATIVE 3

DRAWN PAUL D. CRAWFORD			
DESIGNED KEN LEE			
CHECKED KEN LEE	DATE JAN. 2004	SCALE NTS	

WORK ORDER NO. R23301
SPECIFICATION NO. XXXX
SHEET NO. 1 OF 1
FILE NO.

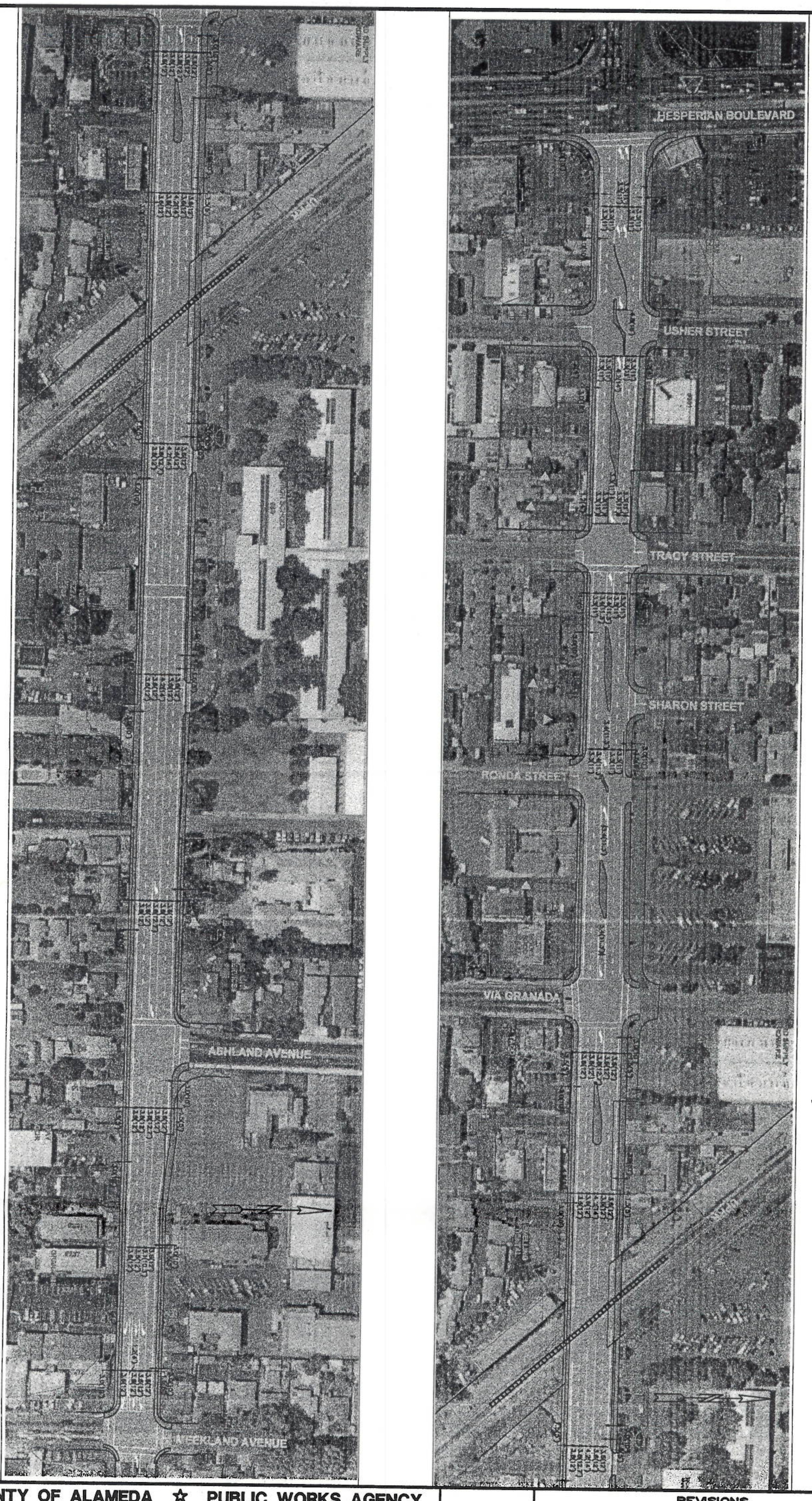
REVISIONS

NO.	DESCRIPTION	BY	DATE	APPV'D
5				
4				
3				
2				
1				

		D BY:	ATE:		D BY:
CONSTRUCTION			SURVEY		
MAINTENANCE			TRAFFIC		
REAL ESTATE			ENVIRONMENTAL		

N:\ROAD\r23289\Alternative Designs\Presentation.dwg 1-14-04 11:12:45 AM paulc
PLOT SCALE: 1000 = 1

FOR REDUCED METRIC PLANS 0 50 mm



ALAMEDA COUNTY Metric
UNITS ARE IN METERS UNLESS OTHERWISE NOTED.

COUNTY OF ALAMEDA ☆ PUBLIC WORKS AGENCY

LEWELLING BOULEVARD
EAST LEWELLING BOULEVARD
IMPROVEMENTS
PHASE I
ALTERNATIVE 4

DRAWN	PAUL D. CRAWFORD		
DESIGNED	KEN LEE		
CHECKED	KEN LEE	DATE JAN. 2004	SCALE NTS

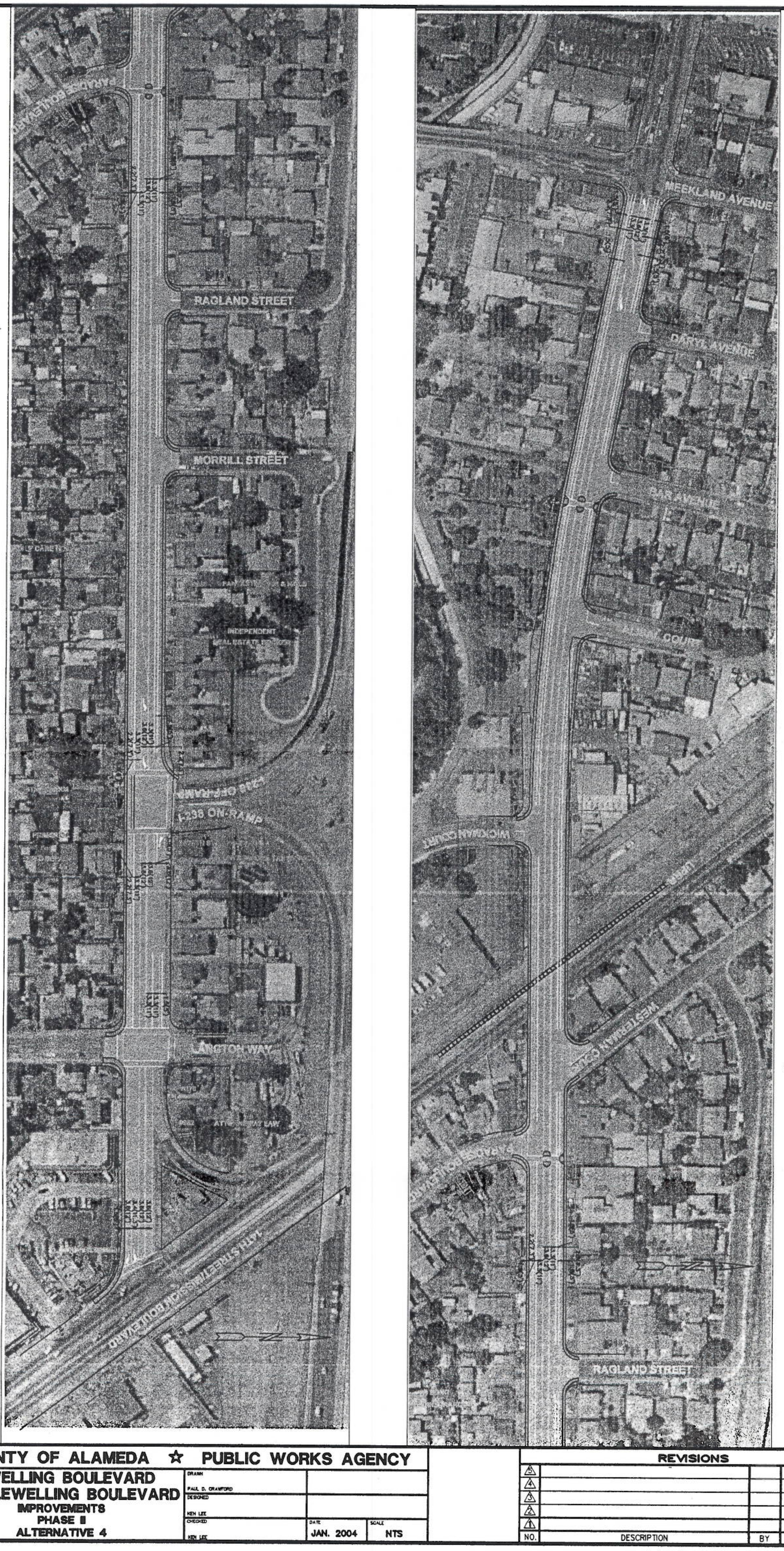
WORK ORDER NO. R23289
SPECIFICATION NO. 1926
SHEET NO. 1 OF 1
FILE NO.

REVISIONS

NO.	DESCRIPTION	BY	DATE	APPV'D
5				
4				
3				
2				
1				

	F D BY:	ATE:		R D BY:	JATE:
CONSTRUCTION			SURVEY		
MAINTENANCE			TRAFFIC		
REAL ESTATE			ENVIRONMENTAL		

N:\ROAD\r23289\Alternative Designs\presentation\alt4.dwg 1-14-04 01:39:44 PM paulc
PLOT SCALE: 1000 = 1



FOR REDUCED METRIC PLANS 0 50 mm

ALAMEDA COUNTY Metric
UNITS ARE IN METERS
UNLESS OTHERWISE NOTED.

FILE NO.	SHEET NO.	SPECIFICATION NO.	WORK ORDER NO.
	1 OF 1	XXXX	R23301

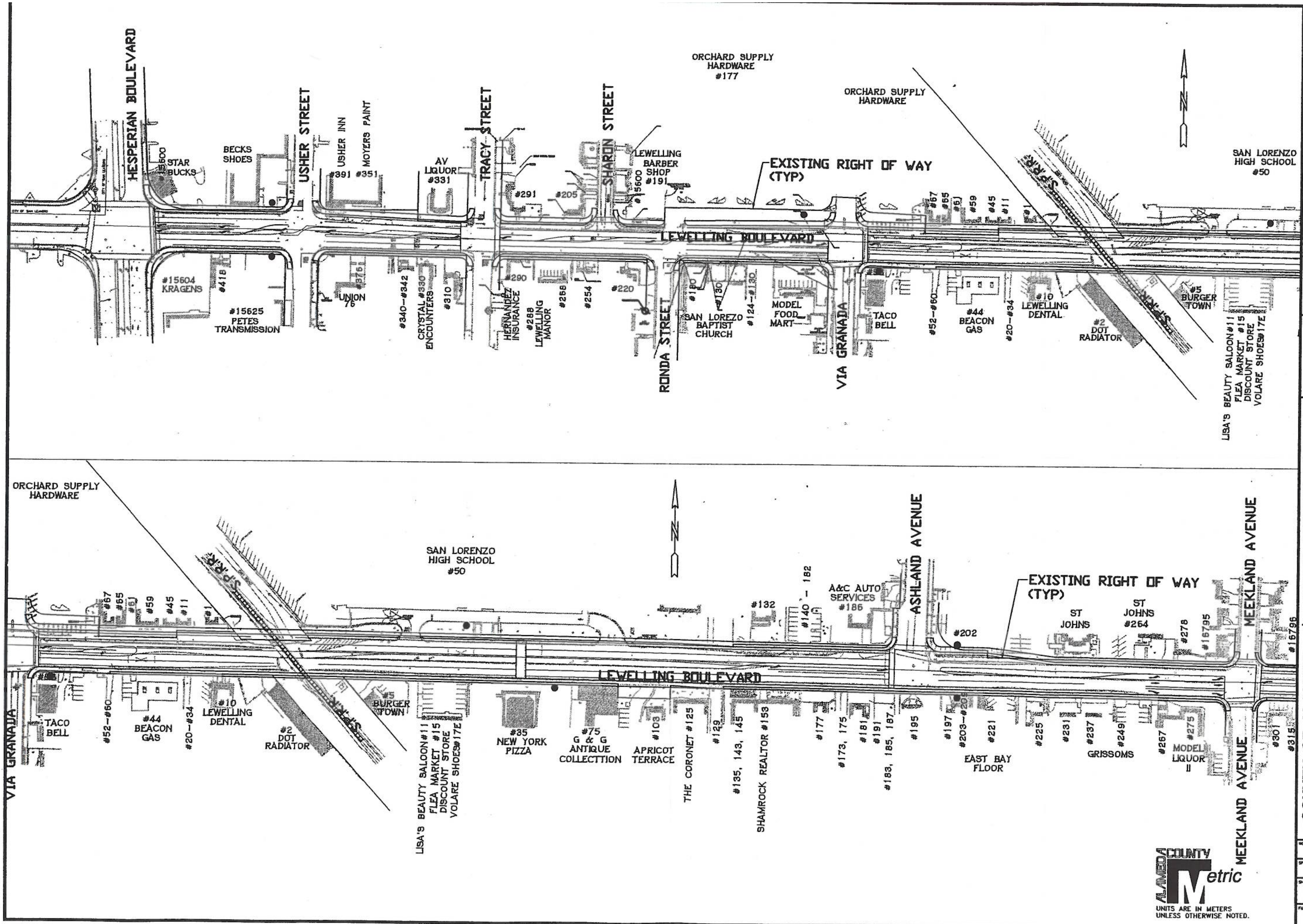
COUNTY OF ALAMEDA ☆ PUBLIC WORKS AGENCY

LEWELLING BOULEVARD
EAST LEWELLING BOULEVARD
IMPROVEMENTS
PHASE II
ALTERNATIVE 4

DRAWN PAUL D. CRAWFORD
DESIGNED KEN LEE
CHECKED KEN LEE
DATE JAN. 2004
SCALE NTS

REVISIONS

NO.	DESCRIPTION	BY	DATE	APPV'D
5				
4				
3				
2				
1				



ALAMEDA COUNTY Metric
UNITS ARE IN METERS UNLESS OTHERWISE NOTED.

FOR REDUCED METRIC PLANS ORIGINAL SCALE IS IN METERS

0 50 mm

COUNTY OF ALAMEDA ☆ PUBLIC WORKS AGENCY

LEWELLING BOULEVARD
EAST LEWELLING BOULEVARD
IMPROVEMENTS
ALTERNATIVE 5
PHASE I

DRAWN PAUL D. CRAWFORD	
DESIGNED KEN LEE	
CHECKED KEN LEE	DATE JAN. 2004
	SCALE NTS

WORK ORDER NO. R23289
SPECIFICATION NO. 1926
SHEET NO. 1 OF 1
FILE NO.

REVISIONS

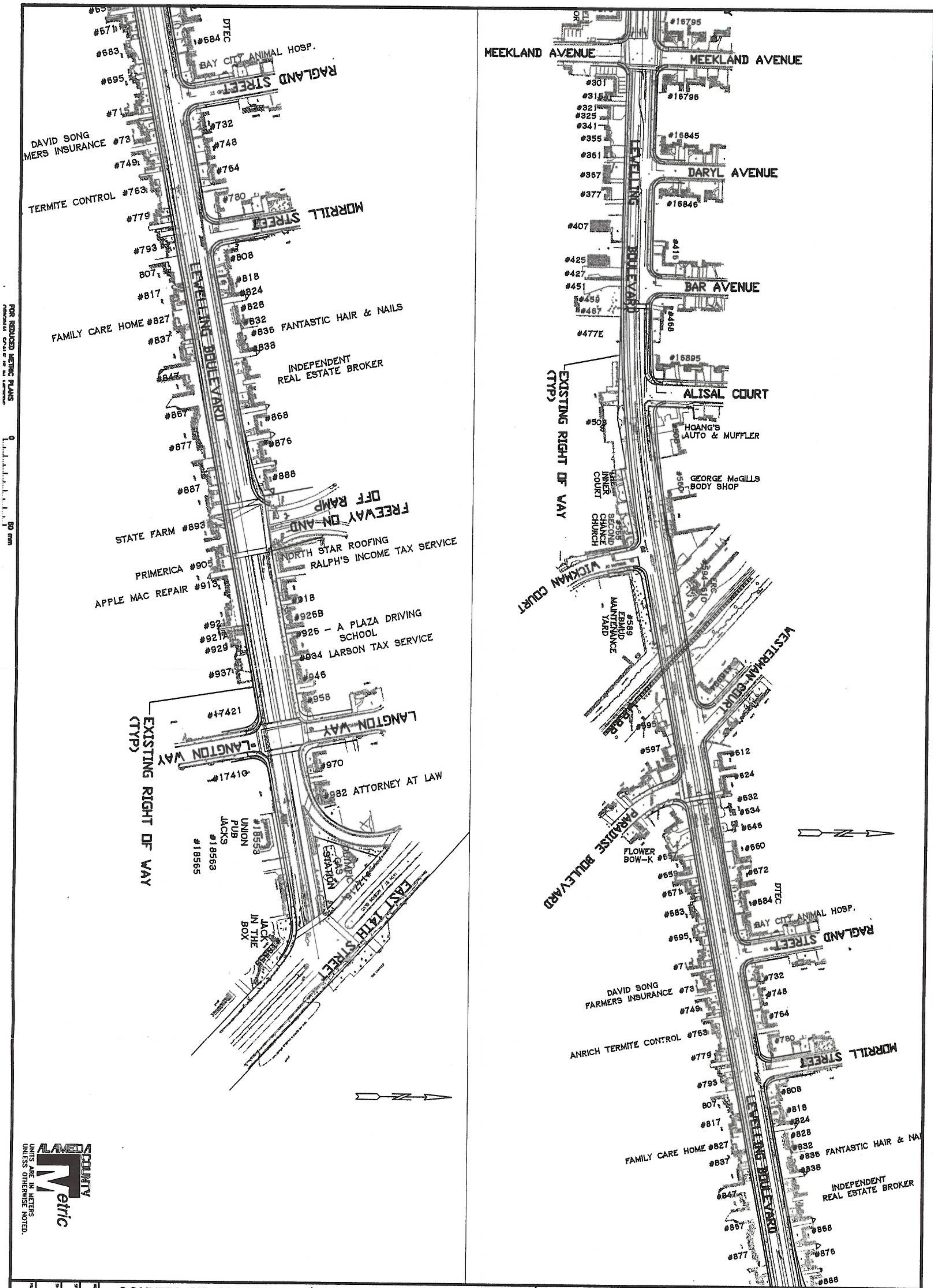
NO.	DESCRIPTION	BY	DATE	APP'VD
△				
△				
△				
△				
△				

	REVIEWED BY:	DATE:		REVIEWED BY:	DATE:
CONSTRUCTION			SURVEY		
MAINTENANCE			TRAFFIC		
REAL ESTATE			ENVIRONMENTAL		

N:\ROAD\r23289\Alternative Designs\Alt F2-modified.dwg 1-13-04 10:51:29 AM paulc
PLOT SCALE: 1000 = 1
TITLE SHEET: K-XXXX-XX

	ED B'	DATE		ED B'.	DATE
CONSTRUCTION			SURVEY		
MAINTENANCE			TRAFFIC		
REAL ESTATE			ENVIRONMENTAL		

N:\ROAD\r23289\Alternative Designs\Alt F2-modified.dwg 1-13-04 11:01:35 AM paulc
PLOT SCALE: 1000 = 1
TITLE SHEET: K-XXXX-XX



COUNTY OF ALAMEDA ☆ PUBLIC WORKS AGENCY

LEWELLING BOULEVARD
EAST LEWELLING BOULEVARD
IMPROVEMENTS
ALTERNATIVE 5
PHASE II

DRAWN	PAUL D. CRAWFORD
DESIGNED	KEN LEE
CHECKED	KEN LEE
DATE	JAN. 2004
SCALE	NTS
WORK ORDER NO.	R23301
SPECIFICATION NO.	XXXX
SHEET NO.	1 OF 1
FILE NO.	

REVISIONS

NO.	DESCRIPTION	BY	DATE	APP'D
5				
4				
3				
2				
1				

Appendix C

Construction Cost Estimates

PHASE I

ALAMEDA COUNTY
ENGINEER'S COST ESTIMATE

SHEET 1 OF 1 SHEETS
DATE 4/21/2004

PROJECT: :The Improvements of Lewelling Blvd./E. Lewelling Blvd. - Phase I: Hesperian to Meekland SPEC. NO 1926 BY KL CHECKED ____

			ESTIMATE OF QUANTITIES (Alt 5, Phase I)					(Alt 5, Phase I)	ESTIMATE OF QUANTITIES (Alt 4, Phase I)			(Alt 4, Phase I)	ESTIMATE OF QUANTITIES (Alt 3, Phase I)			(Alt 3, Phase I)	ESTIMATE OF QUANTITIES (Alt 2, Phase I)			(Alt 2, Phase I)
NO.		ITEM	NET	110%	CALL	UNIT	UNIT COST	COST	NET	110%	CALL	COST	NET	110%	CALL	COST	NET	110%	CALL	COST
1		Traffic Control System			100%	L.S.	$ 100,000.00	$ 100,000.00			100%	$ 100,000.00			100%	$ 100,000.00			100%	$ 150,000.00
2		Construction Area Signs			100%	L.S.	$ 10,000.00	$ 10,000.00			100%	$ 10,000.00			100%	$ 10,000.00			100%	$ 15,000.00
3		Clearing and Grubbing			100%	L.S.	$ 20,000.00	$ 20,000.00			100%	$ 20,000.00			100%	$ 20,000.00			100%	$ 30,000.00
4		Develop Water Supply			100%	L.S.	$ 10,000.00	$ 10,000.00			100%	$ 10,000.00			100%	$ 10,000.00			100%	$ 15,000.00
5		Progress Schedule (Critical Path)			100%	L.S.	$ 10,000.00	$ 10,000.00			100%	$ 10,000.00			100%	$ 10,000.00			100%	$ 10,000.00
6		Water Pollution Control			100%	L.S.	$ 10,000.00	$ 10,000.00			100%	$ 10,000.00			100%	$ 10,000.00			100%	$ 15,000.00
8		Concrete Removal			100%	L.S.	$ 100,000.00	$ 100,000.00			100%	$ 100,000.00			100%	$ 100,000.00			100%	$ 150,000.00
10		Roadway Excavation	27920	30712	30,712.00	C.M.	$ 10.00	$ 307,120.00	28357	31192.7	31,193.00	$ 311,930.00	28357	31192.7	31,193.00	$ 311,930.00	34366	37802.6	37,803.00	$ 378,030.00
12		Hazardous Material removal and treatment			100%	L.S.	$ 350,000.00	$ 350,000.00			100%	$ 350,000.00			100%	$ 350,000.00			100%	$ 450,000.00
13		Asphalt Concrete, Type A (full depth)	20063	22069.3	22,069.00	TONNE	$ 40.00	$ 882,760.00	20747	22821.7	22,822.00	$ 912,880.00	20747	22821.7	22,822.00	$ 912,880.00	24935	27428.5	27,429.00	$ 1,097,160.00
17		Pavement Reinforcing Fabric	12513	13764.3	13,800.00	S.M.	$ 1.50	$ 20,700.00	12513	13764.3	13,800.00	$ 20,700.00	12513	13764.3	13,800.00	$ 20,700.00	15040	16544	17,000.00	$ 25,500.00
21		Minor Concrete (Curb & Gutter)	2350	2585	2,585.00	L.M.	$ 65.00	$ 168,025.00	2350	2585	2,585.00	$ 168,025.00	2350	2585	2,585.00	$ 168,025.00	2350	2585	2,585.00	$ 168,025.00
22		Minor Concrete (Sidewalk)	4300	4730	4,730.00	S.M.	$ 50.00	$ 236,500.00	7168	7884.8	7,900.00	$ 395,000.00	7168	7884.8	7,900.00	$ 395,000.00	5710	6281	6,281.00	$ 314,050.00
23		Minor Concrete (Pedestrian Ramp)	360	396	400.00	S.M.	$ 60.00	$ 24,000.00	360	396	400.00	$ 24,000.00	360	396	400.00	$ 24,000.00	360	396	400.00	$ 24,000.00
30		Drop Inlet with Taper (SD-419)	62	68.2	68.00	EACH	$ 2,500.00	$ 170,000.00	62	68.2	68.00	$ 170,000.00	62	68.2	68.00	$ 170,000.00	62	68.2	68.00	$ 170,000.00
39		Manhole (SD-***)	20	22	22.00	EACH	$ 3,000.00	$ 66,000.00	20	22	22.00	$ 66,000.00	20	22	22.00	$ 66,000.00	20	22	22.00	$ 66,000.00
43		15-Inch RCP, Class III	1928	2120.8	2,120.00	L.M.	$ 200.00	$ 424,000.00	1928	2120.8	2,120.00	$ 424,000.00	1928	2120.8	2,120.00	$ 424,000.00	1928	2120.8	2,120.00	$ 424,000.00
47		36-Inch RCP, Class III	1162	1278.2	1278.00	L.M.	$ 300.00	$ 383,400.00	1162	1278.2	1278.00	$ 383,400.00	1162	1278.2	1278.00	$ 383,400.00	1162	1278.2	1278.00	$ 383,400.00
49		Install Sidewalk Drain	100	110	110.00	L.M.	$ 50.00	$ 5,500.00	100	110	110.00	$ 5,500.00	100	110	110.00	$ 5,500.00	100	110	110.00	$ 5,500.00
		SIGNING & STRIPING				L.S.		$ 50,000.00				$ 50,000.00				$ 45,000.00				$ 80,000.00
58		Temporary Traffic Signals		0	100%	L.S.	$ 75,000.00	$ 75,000.00		0	100%	$ 75,000.00		0	100%	$ 75,000.00		0	100%	$ 75,000.00
59		Vehicle Detector Loop (Type A)	84	92.4	92.00	EACH	$ 400.00	$ 36,800.00	84	92.4	92.00	$ 36,800.00	84	92.4	92.00	$ 36,800.00	84	92.4	92.00	$ 36,800.00
60		Vehicle Detector Loop (Type D)	76	83.6	84.00	EACH	$ 450.00	$ 37,800.00	76	83.6	84.00	$ 37,800.00	76	83.6	84.00	$ 37,800.00	76	83.6	84.00	$ 37,800.00
62		Traffic Signal Modifications (Hesperian Blvd)		0	100%	L.S.	$ 100,000.00	$ 100,000.00		0	100%	$ 100,000.00		0	100%	$ 100,000.00		0	100%	$ 100,000.00
63		Traffic Signal Modifications (Via Granada)		0	100%	L.S.	$ 150,000.00	$ 150,000.00		0	100%	$ 150,000.00		0	100%	$ 150,000.00		0	100%	$ 150,000.00
64		Traffic Signal Modifications (UPRR-West End)		0	100%	L.S.	$ 100,000.00	$ 100,000.00		0	100%	$ 100,000.00		0	100%	$ 100,000.00		0	100%	$ 100,000.00
65		Traffic Signal Modifications (Ashland Avenue)		0	100%	L.S.	$ 150,000.00	$ 150,000.00		0	100%	$ 150,000.00		0	100%	$ 150,000.00		0	100%	$ 150,000.00
66		Traffic Signal Modifications (Meekland Avenue)		0	100%	L.S.	$ 150,000.00	$ 150,000.00		0	100%	$ 150,000.00		0	100%	$ 150,000.00		0	100%	$ 150,000.00
67		Traffic Signal Interconnect	1162	1278.2	1,278.00	L.M.	$ 15.00	$ 19,170.00	1162	1278.2	1,278.00	$ 19,170.00	1162	1278.2	1,278.00	$ 19,170.00	1162	1278.2	1,278.00	$ 19,170.00
68		Street Light Relocation		0	100%	L.S.	$ 100,000.00	$ 100,000.00		0	100%	$ 100,000.00		0	100%	$ 100,000.00		0	100%	$ 150,000.00
		IRRIGATION						$ 170,000.00				$ 100,000.00				$ 100,000.00				$ 200,000.00
		LANDSCAPING						$ 250,000.00				$ 150,000.00				$ 150,000.00				$ 300,000.00
		STREETSCAPING						$ 350,000.00				$ 350,000.00				$ 350,000.00				$ 400,000.00
89		Miscellaneous Items		0	100%	L.S.	$ 100,000.00	$ 100,000.00		0	100%	$ 100,000.00		0	100%	$ 100,000.00		0	100%	$ 150,000.00
90		Adjustment of Contract Bid Items and Extra Work Allowance		0	Pre-Bid	Pre-Bid	$ 700,000.00	$ 700,000.00		0	Pre-Bid	$ 700,000.00		0	Pre-Bid	$ 700,000.00		0	Pre-Bid	$ 800,000.00
91		Alternate Bid Item - Construction Survey Staking		0	100%	L.S.	$ 50,000.00	$ 50,000.00		0	100%	$ 50,000.00		0	100%	$ 50,000.00		0	100%	$ 100,000.00
		Sub-total						**$ 5,851,650.00**				**$ 5,875,080.00**				**$ 5,870,080.00**				**$ 6,789,435.00**
		15% Contingency					15.00%	**$ 877,747.50**				**$ 881,262.00**				**$ 880,512.00**				**$ 1,018,415.25**
		Total Base Bid						**$ 6,729,397.50**				**$ 6,756,342.00**				**$ 6,750,592.00**				**$ 7,807,850.25**
		Total of Alternate Bid Item						**$ 50,000.00**				**$ 50,000.00**				**$ 50,000.00**				**$ 100,000.00**
							TOTAL:	**$ 6,779,397.50**				**$ 6,806,342.00**				**$ 6,800,592.00**				**$ 7,907,850.25**
							CALL:	**$ 6,780,000.00**				**$ 6,810,000.00**				**$ 6,800,000.00**				**$ 7,910,000.00**

PHASE II

ALAMEDA COUNTY
ENGINEER'S COST ESTIMATE

SHEET 1 OF 1 SHEETS
DATE 4/2/2004

PROJECT: The Improvements of Lewelling Blvd./E. Lewelling Blvd. - Phase II: Meekland to Mission SPEC NO ____ BY KL CHECKED ____

		ESTIMATE OF QUANTITIES (Alt 5, Phase II)					(Alt 5, Phase II)	ESTIMATE OF QUANTITIES (Alt 4, Phase II)			(Alt 4, Phase II)	ESTIMATE OF QUANTITIES (Alt 3, Phase II)			(Alt 3, Phase II)	ESTIMATE OF QUANTITIES (Alt 2, Phase II)			(Alt 2, Phase II)	ESTIMATE OF QUANTITIES (Alt 5a, Phase II)			(Alt 5a, Phase II)
NO.	ITEM	NET	110%	CALL	UNIT	UNIT COST	COST	NET	110%	CALL	COST	NET	110%	CALL	COST	NET	110%	CALL	COST	NET	110%	CALL	COST
1	Traffic Control System			100%	L.S.	$ 120,000.00	$ 120,000.00			100%	$ 120,000.00			100%	$ 120,000.00			100%	$ 150,000.00			100%	$ 120,000.00
2	Construction Area Signs			100%	L.S.	$ 15,000.00	$ 15,000.00			100%	$ 15,000.00			100%	$ 15,000.00			100%	$ 20,000.00			100%	$ 15,000.00
3	Clearing and Grubbing			100%	L.S.	$ 20,000.00	$ 20,000.00			100%	$ 20,000.00			100%	$ 20,000.00			100%	$ 30,000.00			100%	$ 15,000.00
4	Develop Water Supply			100%	L.S.	$ 10,000.00	$ 10,000.00			100%	$ 10,000.00			100%	$ 10,000.00			100%	$ 15,000.00			100%	$ 10,000.00
5	Progress Schedule (Critical Path)			100%	L.S.	$ 10,000.00	$ 10,000.00			100%	$ 10,000.00			100%	$ 10,000.00			100%	$ 10,000.00			100%	$ 10,000.00
6	Water Pollution Control			100%	L.S.	$ 10,000.00	$ 10,000.00			100%	$ 10,000.00			100%	$ 10,000.00			100%	$ 15,000.00			100%	$ 10,000.00
8	Concrete Removal			100%	L.S.	$ 100,000.00	$ 100,000.00			100%	$ 100,000.00			100%	$ 100,000.00			100%	$ 150,000.00			100%	$ 65,000.00
10	Roadway Excavation	20805	22885.5	22,890.00	C.M.	$ 10.00	$ 228,900.00	20805	22885.5	22,890.00	$ 228,900.00	20805	22885.5	22,890.00	$ 228,900.00	29592	32551.2	32,551.00	$ 325,510.00	17775	19552.5	19,553.00	$ 195,530.00
12	Hazardous Material removal and treatment			100%	L.S.	$ 250,000.00	$ 250,000.00			100%	$ 250,000.00			100%	$ 250,000.00			100%	$ 300,000.00			100%	$ 200,000.00
13	Asphalt Concrete, Type A (full depth)	15206	16726.6	16,727.00	TONNE	$ 40.00	$ 669,080.00	15206	16726.6	16,727.00	$ 669,080.00	15206	16726.6	16,727.00	$ 669,080.00	21526	23678.6	23,679.00	$ 947,160.00	12458	13703.8	13,704.00	$ 548,160.00
17	Pavement Reinforcing Fabric	9172	10089.2	10,089.00	S.M.	$ 1.50	$ 15,133.50	9172	10089.2	10,089.00	$ 15,133.50	9172	10089.2	10,089.00	$ 15,133.50	12984	14282.4	14,282.00	$ 21,423.00	7514	8265.4	8,265.00	$ 12,397.50
21	Minor Concrete (Curb & Gutter)	2210	2431	2,431.00	L.M.	$ 65.00	$ 158,015.00	2210	2431	2,431.00	$ 158,015.00	2210	2431	2,431.00	$ 158,015.00	2210	2431	2,431.00	$ 158,015.00	1105	1215.5	1,216.00	$ 79,040.00
22	Minor Concrete (Sidewalk)	3359	3694.9	3,695.00	S.M.	$ 50.00	$ 184,750.00	3359	3694.9	3,695.00	$ 184,750.00	3359	3694.9	3,695.00	$ 184,750.00	5370	5907	5,907.00	$ 295,350.00	1680	1848	1,848.00	$ 92,400.00
23	Minor Concrete (Pedestrian Ramp)	276	303.6	304.00	S.M.	$ 60.00	$ 18,240.00	276	303.6	304.00	$ 18,240.00	276	303.6	304.00	$ 18,240.00	276	303.6	304.00	$ 18,240.00	276	303.6	304.00	$ 18,240.00
30	Drop Inlet with Taper (SD-419)	62	68.2	68.00	EACH	$ 2,500.00	$ 170,000.00	62	68.2	68.00	$ 170,000.00	62	68.2	68.00	$ 170,000.00	62	68.2	68.00	$ 170,000.00	40	44	44.00	$ 110,000.00
39	Manhole (SD-***)	20	22	22.00	EACH	$ 3,000.00	$ 66,000.00	20	22	22.00	$ 66,000.00	20	22	22.00	$ 66,000.00	20	22	22.00	$ 66,000.00	20	22	22.00	$ 66,000.00
43	15-Inch RCP, Class III	1105	1215.5	1,216.00	L.M.	$ 200.00	$ 243,200.00	1105	1215.5	1,216.00	$ 243,200.00	1105	1215.5	1,216.00	$ 243,200.00	1105	1215.5	1,216.00	$ 243,200.00	1105	1215.5	1,216.00	$ 243,200.00
47	36-Inch RCP, Class III	1105	1215.5	1216.00	L.M.	$ 300.00	$ 364,800.00	1105	1215.5	1216.00	$ 364,800.00	1105	1215.5	1216.00	$ 364,800.00	1105	1215.5	1216.00	$ 364,800.00	1105	1215.5	1216.00	$ 364,800.00
49	Install Sidewalk Drain	100	110	110.00	L.M.	$ 50.00	$ 5,500.00	100	110	110.00	$ 5,500.00	100	110	110.00	$ 5,500.00	100	110	110.00	$ 5,500.00	100	110	110.00	$ 5,500.00
	SIGNING & STRIPING				L.S.		$ 50,000.00				$ 50,000.00				$ 40,000.00				$ 80,000.00				$ 36,000.00
58	Temporary Traffic Signals		0	100%	L.S.	$ 75,000.00	$ 75,000.00		0	100%	$ 75,000.00		0	100%	$ 75,000.00		0	100%	$ 75,000.00		0	100%	$ 75,000.00
59	Vehicle Detector Loop (Type A)	40	44	44.00	EACH	$ 400.00	$ 17,600.00	40	44	44.00	$ 17,600.00	40	44	44.00	$ 17,600.00	40	44	44.00	$ 17,600.00	40	44	44.00	$ 17,600.00
60	Vehicle Detector Loop (Type D)	60	66	66.00	EACH	$ 450.00	$ 29,700.00	60	66	66.00	$ 29,700.00	60	66	66.00	$ 29,700.00	60	66	66.00	$ 29,700.00	60	66	66.00	$ 29,700.00
62	Traffic Signal Modifications (UPRR-East End)		0	100%	L.S.	$ 100,000.00	$ 100,000.00		0	100%	$ 100,000.00		0	100%	$ 100,000.00		0	100%	$ 100,000.00		0	100%	$ 100,000.00
63	Traffic Signal Modifications (I-238 Ramp)		0	100%	L.S.	$ 100,000.00	$ 100,000.00		0	100%	$ 100,000.00		0	100%	$ 100,000.00		0	100%	$ 100,000.00		0	100%	$ 100,000.00
64	Traffic Signal Modifications (Mission Blvd)		0	100%	L.S.	$ 100,000.00	$ 100,000.00		0	100%	$ 100,000.00		0	100%	$ 100,000.00		0	100%	$ 100,000.00		0	100%	$ 100,000.00
65	Traffic Signal Interconnect	1105	1215.5	1,216.00	L.M.	$ 15.00	$ 18,240.00	1105	1215.5	1,216.00	$ 18,240.00	1105	1215.5	1,216.00	$ 18,240.00	1105	1215.5	1,216.00	$ 18,240.00	1105	1215.5	1,216.00	$ 18,240.00
66	Street Light Relocation		0	100%	L.S.	$ 80,000.00	$ 80,000.00		0	100%	$ 80,000.00		0	100%	$ 80,000.00		0	100%	$ 120,000.00		0	100%	$ 60,000.00
	IRRIGATION						$ 100,000.00				$ 100,000.00				$ 100,000.00				$ 150,000.00				$ 75,000.00
	LANDSCAPING						$ 200,000.00				$ 200,000.00				$ 200,000.00				$ 250,000.00				$ 150,000.00
	STREETSCAPING						$ 250,000.00				$ 250,000.00				$ 250,000.00				$ 300,000.00				$ 150,000.00
87	Miscellaneous Items		0	100%	L.S.	$ 100,000.00	$ 100,000.00		0	100%	$ 100,000.00		0	100%	$ 100,000.00		0	100%	$ 150,000.00		0	100%	$ 100,000.00
88	Adjustment of Contract Bid Items and Extra Work Allowance		0	Pre-Bid	Pre-Bid	$ 500,000.00	$ 600,000.00		0	Pre-Bid	$ 600,000.00		0	Pre-Bid	$ 600,000.00		0	Pre-Bid	$ 700,000.00		0	Pre-Bid	$ 500,000.00
89	Alternate Bid Item - Construction Survey Staking		0	100%	L.S.	$ 50,000.00	$ 50,000.00		0	100%	$ 50,000.00		0	100%	$ 50,000.00		0	100%	$ 70,000.00		0	100%	$ 40,000.00
	Sub-total						**$ 4,479,158.50**				**$ 4,479,158.50**				**$ 4,469,158.50**				**$ 5,495,738.00**				**$ 3,691,807.50**
	15% Contingency					15.00%	**$ 671,873.78**				**$ 671,873.78**				**$ 670,373.78**				**$ 824,360.70**				**$ 553,771.13**
	Total Base Bid						**$ 5,151,032.28**				**$ 5,151,032.28**				**$ 5,139,532.28**				**$ 6,320,098.70**				**$ 4,245,578.63**
	Total of Alternate Bid Item						**$ 50,000.00**				**$ 50,000.00**				**$ 50,000.00**				**$ 70,000.00**				**$ 40,000.00**
						TOTAL:	**$ 5,201,032.28**				**$ 5,201,032.28**				**$ 5,189,532.28**				**$ 6,390,098.70**				**$ 4,285,578.63**
						CALL:	**$ 5,200,000.00**				**$ 5,200,000.00**				**$ 5,190,000.00**				**$ 6,390,000.00**				**$ 4,290,000.00**

Appendix D

Right-of-Way Cost Estimates

The following estimates are based on the latest engineering available at a scale that does not provide for a detailed analysis on the impacts on individual properties on the different alternatives proposed.

Alternative	Phase	Number of Parcels	Costs (2003 Dollars)	Remarks
1				No Build
2	I	50	$24,000,000	See Note 1
	II	81	$28,000,000	
3	I	50	$ 4,370,000	See Note 2
	II	81	$ 3,000,000	
4	I	50	$ 4,650,000	See Note 2
	II	81	$ 3,000,000	
5	I	50	$ 4,400,000	See Note 2
	II	81	$ 3,000,000	
5a	I	50	$ 4,400,000	See Note 2
	II	41	$ 2,830,000	

Note 1: This alignment will affect a large number of properties by the takings of the driveways or full takes of some single-family residences and business resulting in the additional costs associated in relocation assistance. This alignment will also impact two gasoline service station requiring significant modifications to the improvements and might require environmental clean up with additional costs to be absorbed by the County for business down time or relocation assistance.

Note 2: The impacts of this alignment will affect some business with the possibility of reconstruction of the fronts of some of the buildings to accommodate this project in the manner proposed. There is the possibility some of the businesses located in these buildings that will be affected will be eligible for relocation assistance as a result of the project.

Appendix E

Consultants and County Staff Cost Estimates

The following are preliminary estimates of consultants and County staff costs for the Lewelling Boulevard/East Lewelling Boulevard Improvement Project (Phase I)

Project Phases	Consultant Cost (2003 Dollars)	County Staff Cost (2003 Dollars)
Scope	$ 175,000	$ 412,000
Environ./Prelim. Eng.	$ 600,000*	$ 150,000
PS&E	$ 0	$ 600,000
Right-of-Way	$ 100,000	$ 210,000
Utility Relocation**	$ 0	$ 50,000
Construction Eng.	$ 0	$ 680,000
Total:	$ 875,000	$ 2,102,000

* Includes landscape/streetscape design by the consultant

** The estimated capital cost for utility relocation is $ 300,000