CAPITAL VILLAGE

Final Mitigated Negative Declaration

City of Rancho Cordova
3121 Gold Canal Drive
Rancho Cordova, CA 95670

March 2005

FINAL MITIGATED NEGATIVE DECLARATION

FOR

CAPITAL VILLAGE

CITY OF RANCHO CORDOVA, CALIFORNIA

Prepared by:

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MARCH 2005

1.0 Introduction

1.1 INTRODUCTION AND REGULATORY GUIDANCE

This document is an Initial Study and Mitigated Negative Declaration (MND) prepared pursuant to the California Environmental Quality Act (CEQA), for the proposed Capital Village project. This MND has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Sections 21000 *et seq*., and the CEQA Guidelines.

An initial study is conducted by a lead agency to determine if a project may have a significant effect on the environment. In accordance with the CEQA Guidelines, Section 15064, an environmental impact report (EIR) must be prepared if the initial study indicates that the proposed project under review may have a potentially significant impact on the environment. A negative declaration may be prepared instead, if the lead agency prepares a written statement describing the reasons why a proposed project would not have a significant effect on the environment, and, therefore, why it does not require the preparation of an EIR (CEQA Guidelines Section 15371). According to CEQA Guidelines Section 15070, a negative declaration shall be prepared for a project subject to CEQA when either:

a) The initial study shows there is no substantial evidence, in light of the whole record before the agency, that the proposed project may have a significant effect on the environment, or

b) The initial study identified potentially significant effects, but:

(1) Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed negative declaration is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and

(2) There is no substantial evidence, in light of the whole record before the agency, that the proposed project as revised may have a significant effect on the environment.

If revisions are adopted into the proposed project in accordance with the CEQA Guidelines Section 15070(b), a mitigated negative declaration is prepared.

1.2 LEAD AGENCY

The lead agency is the public agency with primary responsibility over a proposed project. Where two or more public agencies will be involved with a project, CEQA Guidelines Section 15051 provides criteria for identifying the lead agency. In accordance with CEQA Guidelines Section 15051(b) (1), "the lead agency will normally be the agency with general governmental powers, such as a city or county, rather than an agency with a single or limited purpose." Based on these criteria, the City of Rancho Cordova will serve as lead agency for the proposed Capital Village project.

1.3 PURPOSE AND DOCUMENT ORGANIZATION

The purpose of this Initial Study and Final Mitigated Negative Declaration is to evaluate the potential environmental impacts of the proposed Capital Village project.

This document is divided into the following sections:

- **1.0 Introduction -** Provides an introduction and describes the purpose and organization of this document.

- **2.0 Project Description -** Provides a detailed description of the proposed project.

- **3.0 Environmental Setting, Impacts and Mitigation Measures -** Describes the environmental setting for each of the environmental subject areas, evaluates a range of impacts classified as "no impact," "less than significant," or "potentially significant unless mitigation incorporated" in response to the environmental checklist, and provides mitigation measures, where appropriate, to mitigate potentially significant impacts to a less than significant level.

  Changes were made to the Air Quality section to address comments received during the public comment period from the Sacramento Air Quality Management District (SMAQMD). These changes are what constitute the Final Mitigated Negative Declaration.

- **4.0 Cumulative Impacts -** Includes a discussion of cumulative impacts of this project.

- **5.0 Determination -** Provides the environmental determination for the project;

- **6.0 Report Preparation and Consultations -** Identifies staff and consultants responsible for preparation of this document, persons and agencies consulted, and references.

- **7.0 References –** List of references used to prepare the MND.

1.4 ASSUMPTIONS

The City of Rancho Cordova has adopted Sacramento County's General Plan by reference. All references to the County General Plan, including standards, shall be interpreted as the City's General Plan. The City is currently preparing a General Plan. This project is also subject to the Interim General Plan and vision book.

2.0 Project Description

2.1 PROJECT LOCATION

The project site is bounded by Data and Disk Drive to the north, Prospect Park Drive on the east, Zinfandel on the west, and the Villages of Zinfandel subdivision to the south. International Drive bisects the property in an east to west direction through the southern portion of the site. Surrounding land uses around the property include business and professional office parks to the north, west and east, and residences to the south. Currently, the property is vacant and is covered by seasonal grasses and is bounded by streets on the east, west, and north sides. There are large trees on the western boundary of the site along Zinfandel Drive. Power lines are present on the property running along the southern border and run north to south through the central portion of the site. **Figures 1** and **2** show the project location and vicinity in relation to the City of Rancho Cordova. **Figure 3** shows site photos that depict site in its undeveloped state.

2.2 BACKGROUND

Public Resources Code Section 21083.3 limits CEQA review of certain projects to environmental effects that are "peculiar" to the parcel or to the project and which were not addressed as significant effects in a prior EIR, or which new information shows will be more significant than described in the prior EIR. The Capital Village project is a qualified project pursuant to section 21083.3, which provides in pertinent part:

> (a) If a parcel has been zoned to accommodate a particular density of development or has been designated in a community plan to accommodate a particular density of development and an environmental impact report was certified for that zoning or planning action, the application of this division to the approval of any subdivision map or other project that is consistent with the zoning or community plan shall be limited to effects upon the environment which are peculiar to the parcel or to the project and which were not addressed as significant effects in the prior environmental impact report, or which substantial new information shows will be more significant than described in the prior environmental impact report.
>
> (b) If a development project is consistent with the general plan of a local agency and an environmental impact report was certified with respect to that general plan, the application of this division to the approval of that development project shall be limited to effects on the environment which are peculiar to the parcel or to the project and which were not addressed as significant effects in the prior environmental impact report, or which substantial new information shows will be more significant than described in the prior environmental impact report.

CEQA Guidelines Section 15183 provides guidance on the criteria to be used in making a determination as to whether Section 21083.3 will apply. Specifically, Guideline Section 15183, subdivision (b), provides as follows:

> (b) In approving a project meeting the requirements of this section, a public agency shall limit its examination of environmental effects to those, which the agency determines, in an initial study or other analysis:
>
> (1) Are peculiar to the project or the parcel on which the project would be located, and

(2) Were not analyzed as significant effects in a prior EIR on the zoning action, general plan, or community plan, with which the project is consistent,

(3) Are potentially significant off-site impacts and cumulative impacts which were not discussed in the prior EIR prepared for the general plan, community plan or zoning action, or

(4) Are previously identified significant effects which, as a result of substantial new information which was not known at the time the EIR was certified, are determined to have a more severe adverse impact than discussed in the prior EIR.

This Initial Study is devoted to discussing the basis upon which this partial exemption provided by Section 21083.3 is used for the Capital Village project.

Guideline Section 15183, subdivision (f), provides guidance as to certain categories of effects that, as a matter of law, are not considered "peculiar" to a project. This provision states in part as follows:

(f) An effect of a project on the environment shall not be considered peculiar to the project or the parcel for the purposes of this section if uniformly applied development policies or standards have been previously adopted by the city or county with a finding that the development policies or standards will substantially mitigate the environmental effect when applied to future projects, unless substantial new information shows that the policies or standards will not substantially mitigate the environmental effect.

2.3 PROJECT CHARACTERISTICS

The proposed project will include a General Plan Amendment, Rezone, Development Agreement, and Tentative Subdivision Map. The Capital Village project is located on an approximately 117-acre site and would include 562 lots on 52 acres, 222 Town Homes on 14 acres, 7 acres of commercial/mixed-use with 43 live/work units, 7 acres of park uses, 2 acres of open space, and 25 acres of retail if approved. Development of the proposed project would result in the creation of 836 dwelling units (du) (See **Table 1** and **Figure 4**, Site Plan).

Please note the Draft MND incorrectly stated 836 units. The traffic, air, and noise analysis was based on this higher unit count. Therefore, all traffic, noise, and air quality impacts are overstated by 9 units.

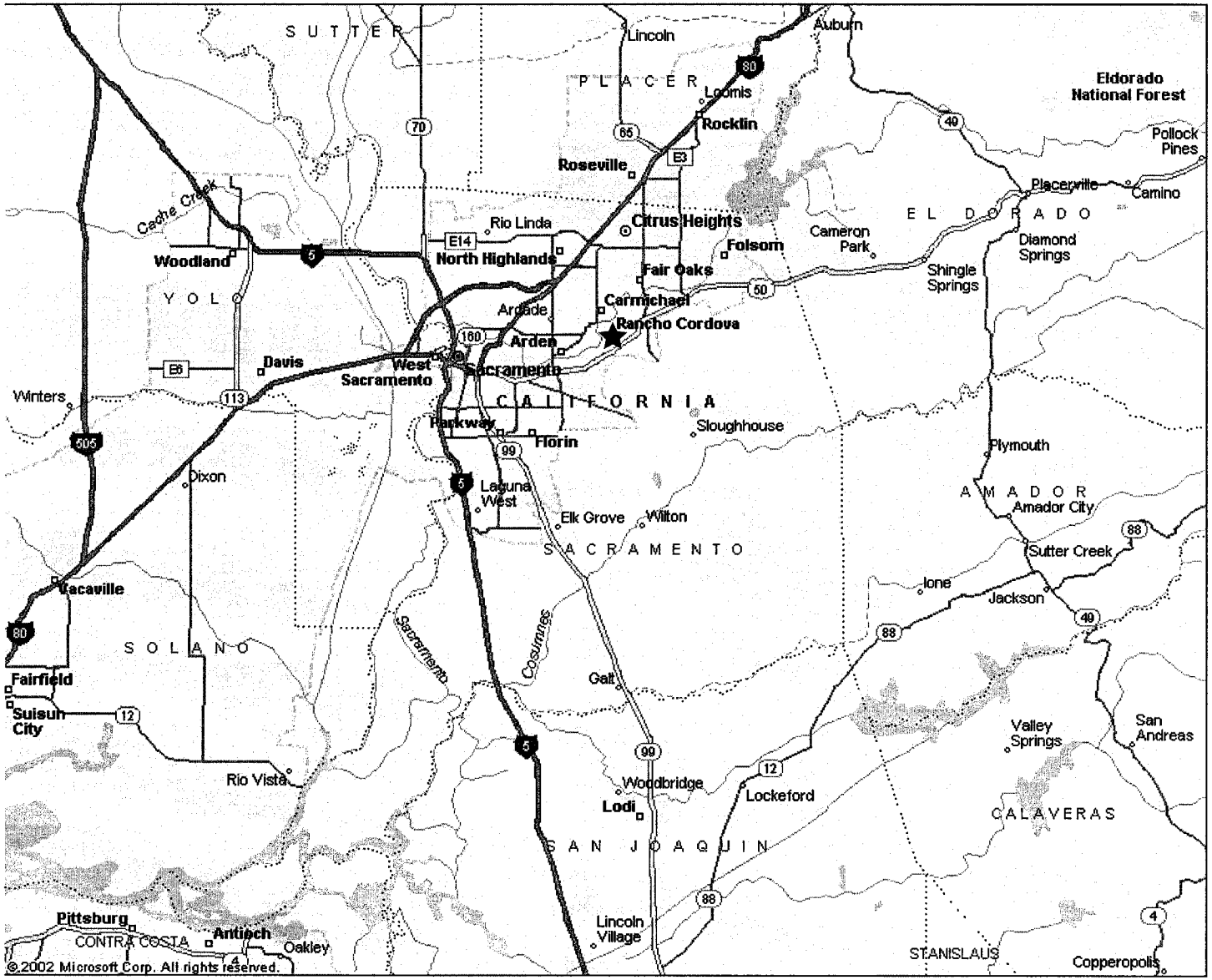
TABLE 1
PROPOSED LAND USES

Land Use	Acres	Units
Single Family Residential	52.16	562
Town homes	14.19	222
CMU	6.55	43
Retail Center	25.25	--
Parks	7.67	--
Open Space	1.88	--
Landscaped Corridors	4.92	--
Roads	4.35	
Totals	**116.96**	**827**

2.4 REQUIRED PROJECT APPROVALS

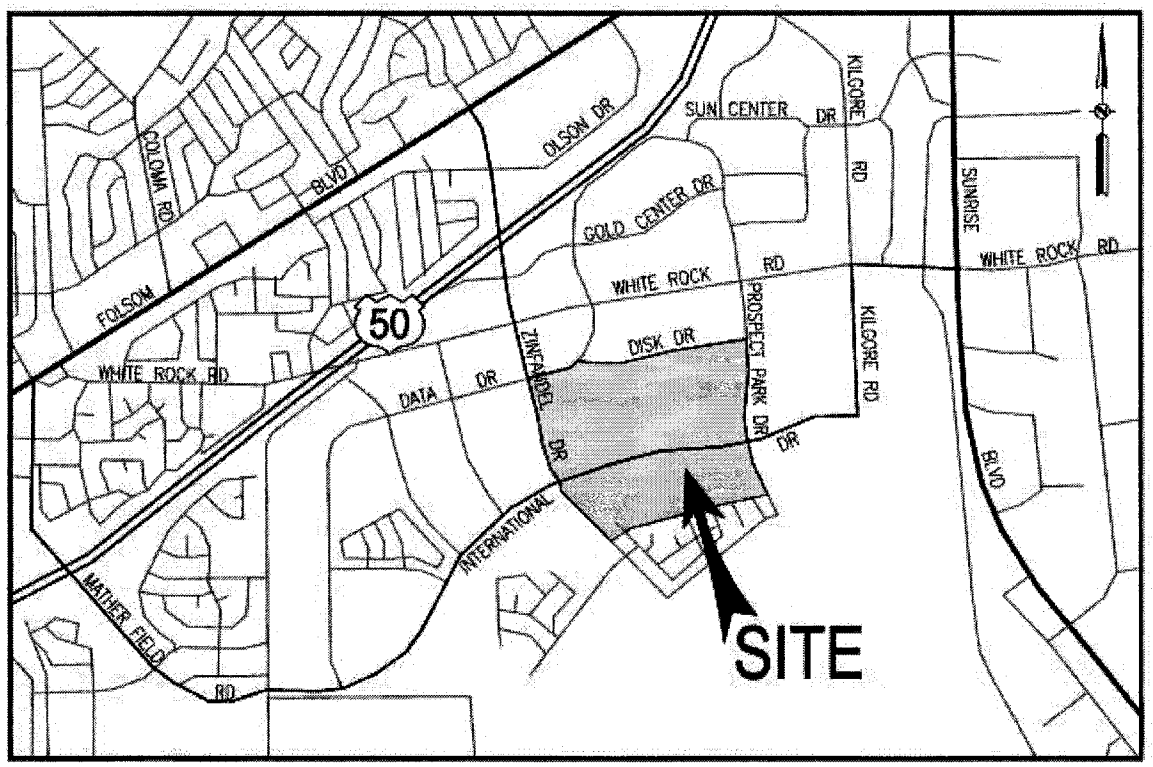
In addition to the approval of the proposed project by the City Council of the City of Rancho Cordova, the following agency approvals may be required (depending on the final project design):

- Caltrans
- Sacramento Metropolitan Air Quality Management District (SMAQMD)
- Central Valley Regional Water Quality Control Board (CVRWQB)
- Sacramento Metropolitan Utility District (SMUD)
- Sacramento Resource Conservation District (SRCD)
- California Department of Fish and Game (CDFG)
- U.S. Army Corps of Engineers (USACE)
- U.S. Fish and Wildlife Service (USFWS)
- County Sanitation District (CSD-1)
- Southern California Water Company (SCWC)



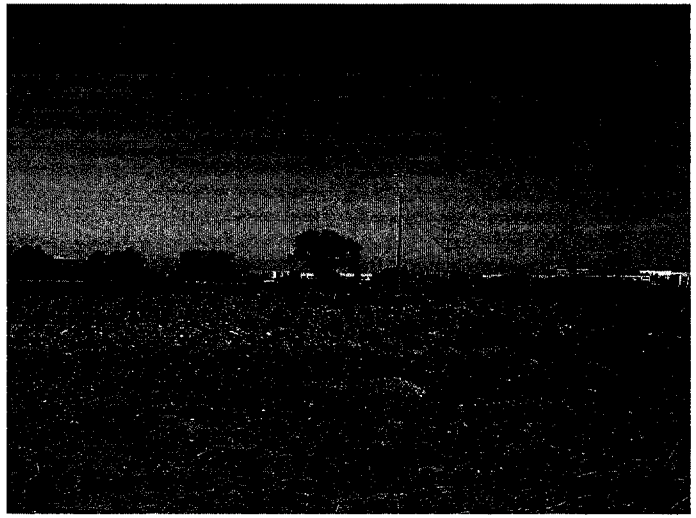
Source: Microsoft's Streets and Trips

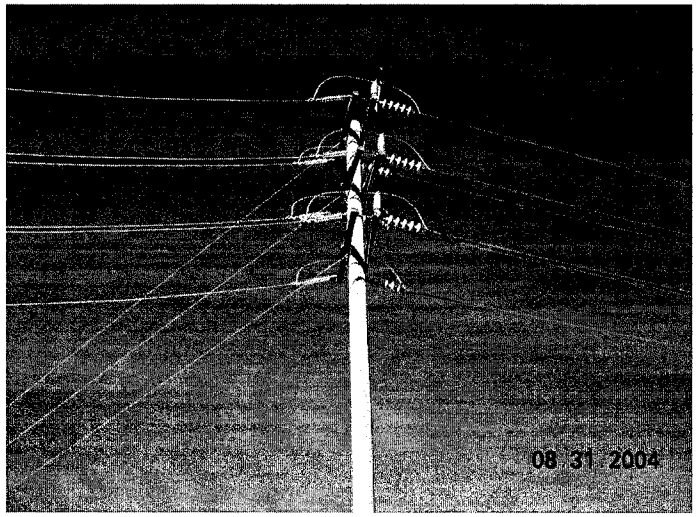
Figure 1
Project Location

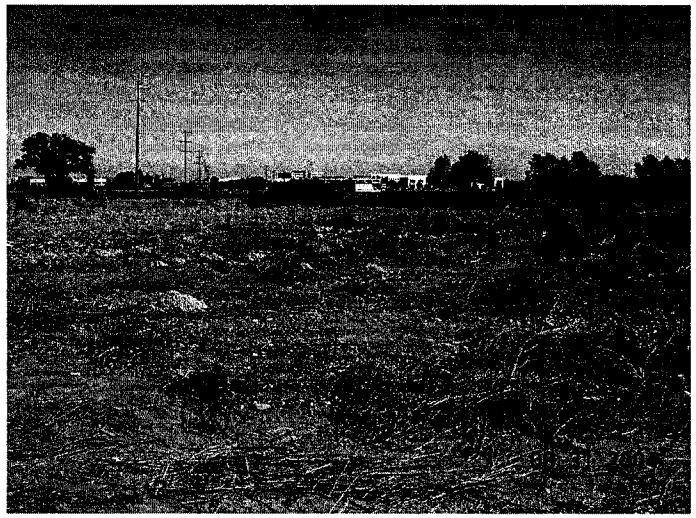


Source: MRO

Figure 2
Project Vicinity

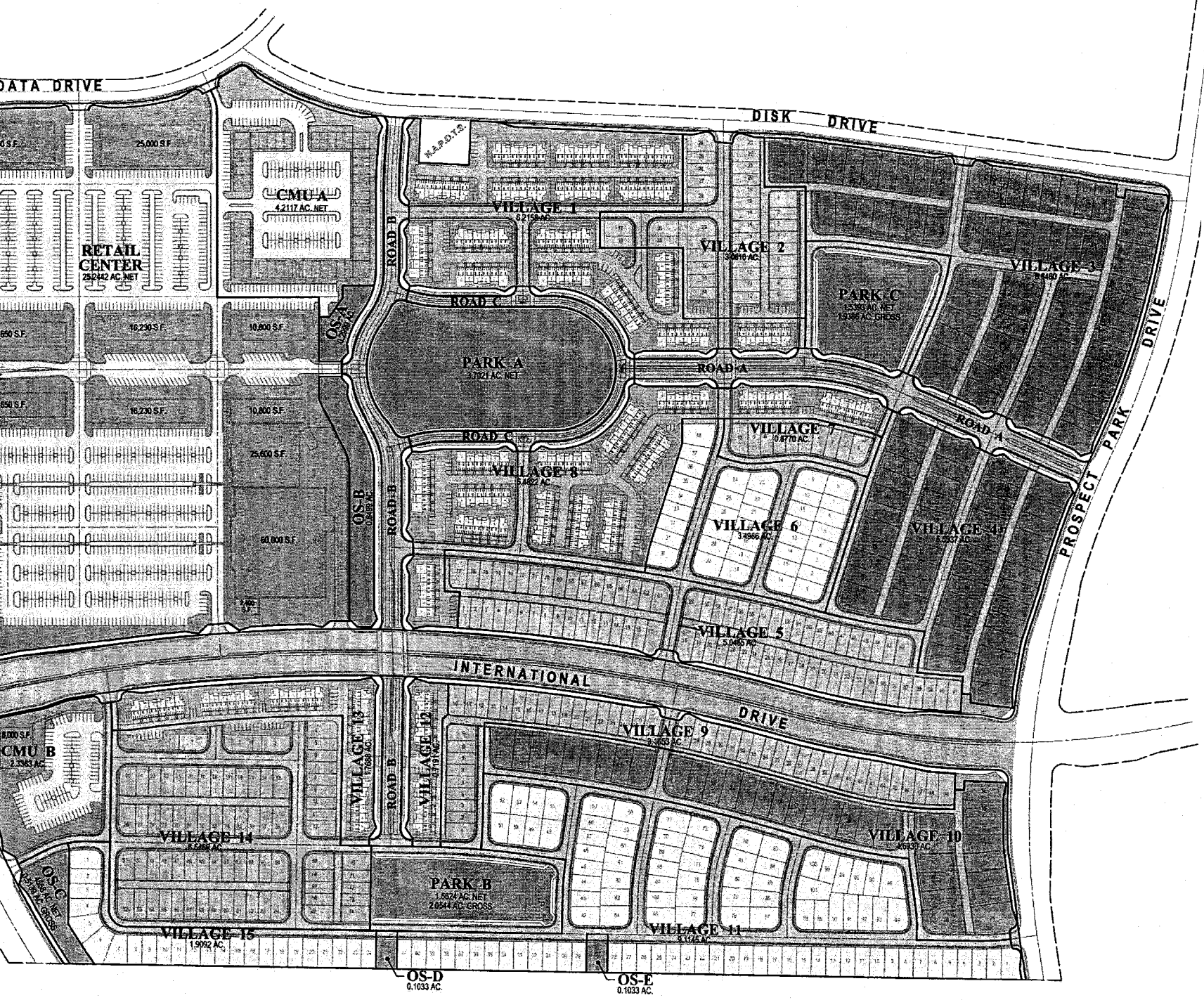






Source: City of Rancho Cordova

Figure 3
Site Photos



Land Use Summary

Village/Lot(s)	Use	Acre
Village 1	Town Homes	6.2
Village 2	28' x 68' Row Lot Typ.	3.0
Village 3	40' x 90' Alley Lot Typ.	8.6
Village 4	40' x 90' Alley Lot Typ.	5.5
Village 5	28' x 68' Row Lot Typ.	5.0
Village 6	35' x 70' Std. Lot Typ.	3.4
Village 7	28' x 68' Row Lot Typ.	0.8
Village 8	Town Homes	5.4
Village 9	28' x 68' Row Lot Typ.	3.1
Village 10	40' x 90' Alley Lot Typ.	4.6
Village 11	35' x 70' Std. Lot Typ.	9.1
Village 12	Town Homes	0.7
Village 13	Town Homes	1.7
Village 14	28' x 68' Row Lot Typ.	6.5
Village 15	35' x 70' Std. Lot Typ.	1.9
CMU A	Live / Retail	4.2
CMU B		2.3
Retail Center		25.2
Park A		3.7
Park B		2.0
Park C		1.9
OS-A	Open Space	0.2
OS-B	Open Space	0.8
OS-C	Open Space	0.5
OS-D	Open Space	0.1
OS-E	Open Space	0.1
Roads	A, B & C and Entries	4.3
LS Corridors		4.9
Total		116.9

Color Legend

- Town Homes
- 28' x 68' Lots
- 35' x 70' Lots
- 40' x 90' Lots
- Open Space
- Parks
- LS Corridors
- Retail Center
- CMU's
- Roads

REGISTERED PROFESSIONAL ENGINEER
TONY D. MEYERS
No. 42589
March 31, 2006
CIVIL
STATE OF CALIFORNIA

3.0 Environmental Setting, Impacts And Mitigation Measures

3.1 INTRODUCTION

This section provides an evaluation of the potential environmental impacts of the proposed project, including the CEQA Mandatory Findings of Significance. There are 14 specific environmental issues evaluated in this chapter. Other CEQA considerations are evaluated in Chapter 4.0. The environmental issues evaluated in this chapter include:

- Land Use Planning, Population, and Housing
- Geophysical (Earth)
- Water
- Air Quality
- Transportation/Circulation
- Biological Resources
- Energy and Mineral Resources
- Hazards
- Noise
- Public Services
- Utilities and Services Systems
- Aesthetics
- Cultural Resources
- Recreation

For each issue area, one of four conclusions is made:

- **No Impact:** No project-related impact to the environment would occur with project development.

- **Less than Significant Impact**: The proposed project would not result in a substantial and adverse change in the environment. This impact level does not require mitigation measures.

- **Potentially Significant Unless Mitigation Incorporated:** The proposed project would result in an environmental impact or effect that is potentially significant, but the incorporation of mitigation measure(s) would reduce the project-related impact to a less than significant level.

- **Potentially Significant Impact:** The proposed project would result in an environmental impact or effect that is potentially significant. If there is one or more "Potentially Significant Impact" entries when the determination is made, and EIR is required.

INITIAL ENVIRONMENTAL STUDY

1. **Project Title:** Capital Village

2. **Lead Agency Name and Address:** City of Rancho Cordova
   3121 Gold Canal Drive
   Rancho Cordova, CA 95670

3. **Contact Person and Phone Number:** Hilary Anderson (916) 361-8384

4. **Project Location:** The project site is located within the City of Rancho Cordova. The project site is bounded by Zinfandel Drive to the west, Prospect Park Drive to the east, Disk Drive to the north and Villages of Zinfandel development to the south. International Drive running east to west bisects the project site between Zinfandel Drive and Prospect Park Drive.

5. **Project Sponsor's Name and Address:** Beazer Homes
   3721 Douglas Blvd., Suite 100
   Roseville CA, 95661

6. **General Plan Designation(s):** Industrial-Office Park.

7. **Zoning:** MP.

8. **General Plan:** The project location is within the City of Rancho Cordova, which has adopted the Sacramento County General Plan as the interim Rancho Cordova General Plan.

9. **APN Number:** 072-0680-010, 072-0680-011, 072-0680-012, 072-0680-013, 072-0680-014, 072-0680-015, 072-0680-016, 072-0680-017, 072-0680-018, 072-0680-019, 072-0680-020, 072-0680-021, 072-0680-034, 072-0680-035, 072-0680-036, 072-0680-037, 072-0680-038

10. **Description of the Project:** The proposed project will include a General Plan Amendment, Rezone, Development Agreement, and Tentative Subdivision Map. The Capital Village project is located on an approximately 117-acre site and would include 562 lots on 52 acres, 222 Town Homes on 14 acres, 7 acres of commercial/mixed-use with 43 live/work units, 7 acres of park uses, 2 acres of open space, and 25 acres of retail. Development of the proposed project would result in the creation of 827dwelling units (du) (See **Figures 3** and **4** for project information).

11. **Surrounding Land Uses and Setting:** The project site is bounded by Data and Disk Drive to the north, Prospect Park Drive on the east, Zinfandel Drive on the west, and the Villages of Zinfandel subdivision to the south. International Drive bisects the property in an east to west direction through the southern portion of the site. Surrounding land uses around the property include business and professional office parks to the north, west and east, and residences to the south. Currently, the property is vacant and is covered by seasonal grasses and is bounded by streets on the east, west, and north sides. Power lines are present on the property running along the southern border and run north to south through the central portion of the site.

12. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement).

1. City of Rancho Cordova
2. Caltrans
3. Sacramento County Water Agency (SCWA)
4. Sacramento Metropolitan Air Quality Management District (SMAQMD)
5. Central Valley Regional Water Quality Control Board (CVRWQCB)
6. Sacramento Metropolitan Utility District (SMUD)
7. Sacramento Resource Conservation District (SRCD)
8. U.S Army Corps of Engineers (USACE)
9. U.S. Fish and Wildlife Service (USFWS)
10. County Sanitation District (CSD-1)
11. California Department of Fish and Game (CDFG)

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project involving at least one impact that is a "Potentially Significant Impact Unless Mitigation is Incorporated" as indicated by the checklist on the following pages.

☐ Aesthetics	☒ Hazards & Hazardous Materials	☐ Public Services
☐ Agricultural Resources	☐ Hydrology/Water Quality	☐ Recreation
☒ Air Quality	☐ Land Use and Planning	☒ Transportation/Traffic
☒ Biological Resources	☐ Mineral Resources	☐ Utilities & Service Systems
☒ Cultural Resources	☒ Noise	☒ Mandatory Findings of Significance
☐ Geology and Soils	☐ Population and Housing	

PURPOSE OF THIS INITIAL STUDY

This Initial Study has been prepared consistent with CEQA Guidelines Section 15063, to determine if the Capital Village project, as proposed, may have a significant effect upon the environment. Based upon the findings contained within this report, the Initial Study will be used in support of the preparation of a Mitigated Negative Declaration. (The discussion demonstrates that there are no potentially significant impacts identified that cannot be mitigated to a less-than-significant level. Therefore, an EIR is not warranted.)

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources cited. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g. the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards.

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect, and construction as well as operational impacts.

3. A "Less than Significant Impact" applies when the proposed project would not result in a substantial and adverse change in the environment. This category also applies when the impact has been previously addressed and it has been determined that there are no new impacts created by the project. This impact level does not require mitigation measures.

4. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect is significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

5. "Potentially Significant Unless Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact". The initial study must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level.

6. Preparers are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g. general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated. A source list should be attached and other sources used or individual contacts should be cited in the discussion.

7. Impacts that were originally classified as potentially significant on previous documents may now be indicated as less than significant. These particular impacts will be marked as "Less than Significant Impact" if the Specific Plan does not create any new impacts for the project area than those previously evaluated.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
I.	**AESTHETICS** Would the project:					
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐	☐
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐	☐
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐	☐
d)	Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☐	☒	☐	☐

Discussion of Impacts

a) *Less Than Significant Impact.* There are no scenic vista views available from the project site. Mid-range views consist of existing single-family residences and office buildings. Long-range views generally consist of rural/agricultural land uses, power transmission lines, industrial and aggregate operations and military/airport operations. Implementation of the project would not adversely affect views on nearby or distant scenic vistas; therefore, this impact is *less than significant*.

b) *Less Than Significant Impact.* The nearest highways are US 50 and the Jackson Highway (State Route 16), which are not designated as a state scenic highway's in the vicinity of the project site. As such, implementation of the project would not damage scenic resources views from these highways. Therefore, this impact considered *less than significant*.

c) *Less Than Significant Impact.* The proposed project is typical of the development surrounding the site. The proposed project is characterized as high-density residential development consisting of 827 new dwelling units. The density and architecture of the proposed residences would be similar to those in the surrounding area. As such, it would not necessarily be intrusive or substantially degrade the existing visual character of the site and its surroundings. Furthermore, the large existing power lines shown in **Figure 3** would be put under ground by the proposed project. Given the development proposed and planned in the vicinity of the project site, the project would have a *less than significant* impact on the visual character and quality of the site and surroundings.

d) *Less Than Significant Impact.* The project would increase the level of light and glare in an established developed area that is relatively unlit at night. Although additional light and glare would result, the impact is expected to be *less than significant*.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
II.	**AGRICULTURE RESOURCES** In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997), prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:					
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐	☐
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐	☐
c)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	☐	☐	☒	☐	☐

Discussion of Impacts

a) *Less Than Significant Impact*. The Capital Village project would not convert Prime, Farmland of Statewide Importance, or Unique Farmland to non-agricultural uses. Project impacts are considered *less than significant* given that the entire site is already zoned for urban uses.

b) *Less Than Significant Impact*. The project site is not under a Williamson Act contract. Therefore, the project's conflicts and impacts with agricultural zoning, and existing Williamson Act contracts act are considered *less than significant*.

c) *Less Than Significant Impact*. See a) and b) above.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
III.	**AIR QUALITY** Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:					
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐	☐
b)	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐	☐
c)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☒	☐	☐	☐
d)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐	☐
e)	Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐	☐

Discussion of Impacts

a) *Less Than Significant Impact*. The project would not substantially conflict with or obstruct implementation of the Sacramento Metropolitan Air Quality Attainment Plan or the goals and objectives of the Sacramento County General Plan. Therefore, the projects impacts are *less than significant*.

b) *Potentially Significant Unless Mitigation Incorporated*. The City of Rancho Cordova is a known area of non-attainment for State and federal standards for carbon monoxide (CO), ozone, and particulate matter less than 10 microns in diameter (PM10). The Sacramento Air Quality Management District (SMAQMD) has set the threshold for NOx, an ozone precursor, at 85 pounds (lbs) per day for construction emissions. Urbemis Air Emissions modeling was conducted to calculate construction emissions produced by the proposed project (**Appendix A-1**). The project was broken down into four phases of construction to more accurately reflect construction scheduling. Construction emissions of NOx are presented below in **Table 2**.

Table 2
Unmitigated Construction Emissions

Construction Phase	NOx Emissions (lbs per day)
Grading Phase 1	123.42
Building Construction 1	184.82
Building Construction I/II	369.97
Building Construction II/III	345.71
Building Construction III	211.62
Building Construction III/IV	421.55
Building Construction IV	209.93

As shown in **Table 2**, the proposed project would be over the NOx threshold during all phases of construction. Furthermore, PM10 emissions could be significant during construction activities. This is considered a *potentially significant impact*.

Mitigation Measures

The following mitigation measures are incorporated into the proposed project to reduce PM10 emissions.

MM 3.1a The project applicant shall require that the contractors water all haul roads at least twice daily during construction activities. This requirement shall be included as a note in the improvement plan submittal.

Timing/Implementation: *During all phases of the project.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department in coordination with SMAQMD.*

MM 3.1b The project applicant shall require that the contractor limit vehicle speed for onsite construction vehicles to 15 mph when winds exceed 20 miles per hour. This requirement shall be included as a note in the improvement plan submittal.

Timing/Implementation: *During all phases of the project.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department in coordination with SMAQMD.*

MM 3.1c The project applicant shall require paved streets adjacent to construction sites to be washed or swept daily to remove accumulated dust. This requirement shall be included as a note in the improvement plan submittal.

Timing/Implementation: *During all phases of the project.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department in coordination with SMAQMD.*

MM 3.1d The project applicant shall require that, when transporting materials by truck during construction activities, two feet of freeboard shall be maintained by the contractor, and that the materials are covered. This requirement shall be included as a note in the improvement plan submittal.

Timing/Implementation: *During all phases of the project.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department in coordination with SMAQMD.*

Implementation of mitigation measures MM 3.1a through MM 3.1d would reduce PM10 impacts to less than significant. The following mitigation measures are incorporated into the proposed project to reduce NOx emissions.

MM 3.1e The project shall provide a plan for approval by SMAQMD demonstrating that the heavy-duty (> 50 horsepower) off-road vehicles to be used in the construction

project, including owned, leased and subcontractor vehicles, will achieve a project wide fleet-average 20 percent NOx reduction and 45 percent particulate reduction compared to the most recent CARB fleet average at time of construction;

And,

The project applicant shall submit to SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project. The inventory shall include the horsepower rating, engine production year, and projected hours of use or fuel throughput for each piece of equipment. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs. At least 48 hours prior to the use of subject heavy-duty off-road equipment, the project representative shall provide SMAQMD with the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman.

Timing/Implementation: *Prior to site disturbance.*

Enforcement/Monitoring: *City of Rancho Cordova and SMAQMD.*

MM 3.1f The project applicant shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40 percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately, and SMAQMD shall be notified within 48 hours of identification of non-compliant equipment. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey. The SMAQMD and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this section shall supercede other SMAQMD or state rules or regulations.

Timing/Implementation: *During all phases of the project.*

Enforcement/Monitoring: *City of Rancho Cordova and SMAQMD.*

Implementation of mitigation measures MM 3.1e and MM 3.1f would reduce project related NOx emissions.

As shown in **Table 3**, with implementation of mitigation measures 3.1e and 3.1f, the proposed project would be 42,020.70 lbs or 21.01 tons over the established NOx threshold. The SMAQMD has an established off-site mitigation fee of $13,000 per ton a project is over the NOx threshold.

This results in the need for $285,741 of off-site mitigation fees to achieve a less than significant impact.

Table 3
Mitigated Construction Emissions

Construction Phase	NOx Emissions (lbs per day)	NOx Over Threshold	Duration (days)	Total Significant NOx (lbs)
Grading Phase 1	98.74	13.74	22	302.19
Building Construction 1	147.86	62.86	55	3457.08
Building Construction I/II	295.98	210.98	44	9282.94
Building Construction II/III	276.57	191.57	55	10536.24
Building Construction III	169.30	84.30	33	2781.77
Building Construction III/IV	337.24	252.24	44	11098.56
Building Construction IV	167.94	82.94	55	4561.92
Total				**42,020.70**

The following mitigation measure is incorporated into the proposed project to reduce NOx emissions to less than significant.

MM 3.1g The project applicant shall pay an off site mitigation fee of **$285,741** to the SMAQMD to reduce construction related NOx emissions to a less than significant level.

Timing/Implementation: *Prior to site disturbance.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department and SMAQMD.*

Implementation of mitigation measure MM 3.1g would ensure a less than significant impact to construction related NOx emissions.

c) *Potentially Significant Unless Mitigation Incorporated.* The SMAQMD has an existing operational threshold for ROG and NOx of 65 lbs per day. Urbemis Air Emissions modeling was conducted for the proposed project to determine operational emissions (**Appendix A-2**). It was determined that the proposed project would be well over the operational thresholds established by SMAQMD. Therefore, the project applicant submitted an Operational Air Quality Mitigation Plan to the SMAQMD to reduce operational emissions (**Appendix A-3**). The SMQMD determined that implementation of the Operational Air Quality Mitigation Plan would result in an 18% reduction in operational emissions (**Appendix A-4**). The SMAQMD determined that the project would still be over the operational thresholds, and that further mitigation was needed. The SMAQMD determined that $137,036 of off-site mitigation was needed to reduce operational impacts to a less than significant level (**Appendix A-4**). The following mitigation measures have been incorporated into the project in reference to the Operational Air Quality Mitigation Plan and subsequent off-site mitigation fee.

Mitigation Measures

MM 3.1h The applicant shall adhere to all provisions in the Operational Air Quality Mitigation Plan to achieve the stated 18% reduction in operational emissions.

Timing/Implementation: *Prior to site disturbance.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department and SMAQMD.*

MM 3.1i The project applicant shall pay an off site mitigation fee of **$137,036** to the SMAQMD to reduce operational related emissions to a less than significant level.

Timing/Implementation: *Prior to site disturbance.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department and SMAQMD.*

Implementation of mitigation measures MM 3.1h and MM 3.1i would ensure a less than significant impact to operational related emissions.

d) *Less Than Significant Impact.* Construction activities associated with the proposed project are not associated with substantial pollutant concentrations. Land uses such as schools, hospitals, parks and elderly housing are considered sensitive to mobile and stationary sources of air pollution. No such uses are located within the project vicinity. Therefore, this impact is *less than significant*.

e) *Less Than Significant Impact.* The project is not expected to create objectionable odors affecting substantial numbers of people. This is considered a *less than significant* impact.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
IV.	**BIOLOGICAL RESOURCES** Would the project:					
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐	☐
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐	☐
c)	Have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal wetlands, etc.), through direct removal, filling, hydrological interruption or other means?	☐	☐	☐	☒	☐
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐	☐
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐	☐
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan?	☐	☐	☒	☐	☐

Setting

A biological site visit was conducted for the project site on September 28th and 30th, 2004. Both parcels have been historically graded, filled, and physically disturbed by multiple human activities. There are numerous fine grain mining tailing piles as well as vast coverage with cobble and rock fill. Many areas of cement and asphalt have also been dumped on-site. Garbage and debris are common particularly around the edges of the parcels. There are no large trees within the site, however, there are many medium and small trees ands shrubs including willow (probably *Salix lasiolepis* – a FACW wetland indicator plant), *Ailanthus altissima*, cottonwood saplings, and ornamental trees (i.e., Chinese pistache). Wetlands may be present on site in areas containing willow and cottonwood because these species like wet areas. The site also contains ample tumble weed and star thistle. The site does not contain vernal pool or riparian habitats. Vernal pool species -Sacramento Orcutt grass (*Orcuttia viscida*), slender orcutt grass (*Orcutia tenuis*), legenere (*Legenera limosa*); vernal pool – seep/marsh species- Boggs Lake hedge-hyssop (*Gratiola heterosepala*); marsh species - Sanford's arrowhead (*Sagittaria sanfordii*); and valley foothill grassland species - Ahart's dwarf rush (*Juncus leiospermus*) would

not be expected to grow on the site due to the existing disturbed site conditions and the lack of vernal pools and wetlands.

Two elderberry shrubs (*Sambucus mexicanus or S. racemosa*) where observed on site. One shrub is located along the southern edge of the southern parcel and the second is located in the middle north area of the northern parcel, just east of the power lines. This shrub species is notable as the host species for the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) a federally threatened species.

A burrowing owl (*Athene cunicularia*), a federal and State species of special concern, was observed along the southern border of the southern parcel along the fence line less than 100 meters west of Prospect Park Drive. This individual was perching and foraging in the area (just east of an elderberry shrub and clusters of willows). Subsequently, Cribbs and Associates conducted four surveys of the Capital Village Site to determine burrowing owl presence. Cribbs and Associates found that the extremely rocky soils on the site are not suitable habitat for burrowing mammals. They also did not find burrows, pellets, or other indications or suitable habitat for burrowing owls. Since burrowing owls are generally associated with habitats where such burrows are present, this site does not appear to be of high value to this species. Furthermore, the survey concluded that the one burrowing owl was using a cavity under a piece of plywood for shelter. When this piece of plywood was moved, the burrowing owl was not observed during future surveys. It was concluded that this one burrowing owl was a transient bird using the debris on the site for shelter.

Discussion of Impacts

a) *Potentially Significant Unless Mitigation Incorporated*. As noted above, surveys have determined the presence of elderberry shrubs, and the past presence of a transient burrowing owl. The project applicant proposes to avoid disturbance of the elderberry shrubs; however, construction activities would have the potential to adversely affect this habitat for the Valley Elderberry Longhorn Beetle. Furthermore, debris piles associated with construction activities would have the potential to attract future burrowing owls. Therefore, this impact is considered *potentially significant*.

Mitigation Measures

The following mitigation measures have been incorporated into the proposed project:

MM 4.1 During construction activities, no large debris piles shall be allowed on the Capital Village Site. Debris shall be transported to the proper disposal facility in a timely manner to avoid creating shelter for transient borrowing owls.

Timing/Implementation: *During Construction Activities.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department.*

MM 4.2 The project proponents shall conduct (or update) determinate surveys for elderberry shrubs using protocol acceptable to the regulatory agencies with authority over these species.

- A detailed plan, which describes the specific methods to be implemented to avoid any project impacts upon special status species to a less than

significant level will be required. This detailed Special Status Species Avoidance Plan shall be prepared in consultation with the USFWS and CDFG, and shall emphasize a multi-species approach to the maximum extent possible.

- If on-site shrubs cannot be avoided, or if the City directs them to be transplanted, then a mitigation plan shall be developed and implemented in consultation with USFWS consistent with the conservation guidelines for the valley elderberry longhorn beetle, which includes one of the two following options:

- Obtain credits at an approved mitigation bank;

OR

- Implement an onsite mitigation and monitoring plan that includes transplantation of the shrub and planting of elderberry seedlings.

The mitigation plan shall be approved by the USFWS prior to acceptance by the City. Any required onsite mitigation shall be incorporated into subsequent improvement and construction plans.

Timing/Implementation: *Prior to site disturbance.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department, USFWS and CDFG.*

b) *Less Than Significant Impact.* The project site does not contain sensitive natural communities identified by local, state and federal agencies. This is considered a *less than significant* impact.

c) *No Impact.* There are no federally protected wetlands as defined by Section 404 of the Clean Water Act on the project site. Development of the site for single-family homes would have *no impact* on wetlands.

d) *Less Than Significant Impact.* Implementation of the proposed project would not interfere with the movement of any fish or wildlife species or impede the use of native wildlife nursery sites or corridors; therefore, this impact is considered *less than significant*.

e) *Less Than Significant Impact*. Development of the project site will not cause conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Therefore, the implementation of the project would not conflict with biological resources and the impact would be *less than significant.*

f) *Less Than Significant Impact*. Currently, there is not an adopted Habitat Conservation Plan (HCP) for Sacramento County; therefore, the project would not conflict with such plans and the impact would be *less than significant.*

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
V.	**CULTURAL RESOURCES** Would the project:					
a)	Cause a substantial adverse change in the significance of a historical resource as defined in ? 15064.5?	☐	☐	☐	☒	☐
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to? 15064.5?	☐	☒	☐	☐	☐
c)	Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☒	☐	☐	☐
d)	Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐	☐

Setting

In-house cultural resources staff conducted archaeological investigations for the Capital Village site in the City of Rancho Cordova. The investigations were conducted to comply with CEQA. The archaeological investigations included: a records search at the North Central Information Center at California State University, Sacramento; a sacred lands search completed by the Native American Heritage Commission in October 2004; Native American consultation conducted in October 2004; and pedestrian surface survey of the project Area of Potential Effect (APE) conducted in September 2004 (See **Appendix B**). Archaeological investigations were adequate to identify typical prehistoric and historic resources that would likely be present in the project area. Archaeological investigations did not identify any significant cultural resources (e.g., prehistoric sites, historic sites, or isolated artifacts) within the boundaries for the proposed project and no comments, to date, have been received from the Native American community.

Discussion of Impacts

a) *No Impact*. The site is vacant and is not known to have any historical resources or significant characteristics as defined by the criteria within the CEQA Guidelines. Therefore, the project would not impact any historical resources.

b) *Potentially Significant Unless Mitigation Incorporated*. Archaeological investigations for the project did not identify any prehistoric sites, historic sites, or unique archaeological resources. There is a possibility, however, of unanticipated and accidental archaeological discoveries during ground-disturbing project-related activities. Any unanticipated and accidental archaeological discoveries during project implementation have the potential to affect unique archaeological resources. This is considered a *potentially significant* impact because the project would implement existing policies in CEQA and the interim Rancho Cordova General Plan for the protection of cultural resources (e.g., prehistoric sites or historic sites).

Mitigation Measures

MM 5.1 Should any cultural resources, such as structural features, unusual amounts of bone or shell, artifacts, human remains, or architectural remains be encountered during reclamation activities, work shall be suspended and the City of Rancho Cordova shall be immediately notified. At that time, the City will coordinate any necessary investigation of the site with appropriate specialist, as needed. The project proponent shall be required to implement any mitigation necessary for the protection of the cultural resources. In addition, pursuant to Section 5097.98 of the State Public Resources Code and Section 7050.5 of the State Health and Safety Code, in the event of the discovery of human remains, all work is to stop and the County Coroner shall be immediately notified. If the remains are determined to be Native American, guidelines of the Native American Heritage Commission shall be adhered to in the treatment and disposition of the remains.

Timing/Implementation: *During all phases of construction activities.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department.*

Implementation of Mitigation Measure MM 5.1 would ensure that the project's potential cultural, historic, paleontologic, and archeological resource impacts are *less than significant*.

c) *Potentially Significant Unless Mitigation Incorporated*. A search of the database at the University of California Museum of Paleontology did not identify any formally documented paleontological sites in the City of Rancho Cordova, but there are documented finds primarily associated with the Riverbank Formation in the east Sacramento County area. Project activities would not likely impact the Riverbank Formation, however, there is a possibility of unanticipated and accidental paleontological discoveries during ground-disturbing project-related activities. Unanticipated and accidental paleontological discoveries during project implementation have the potential to affect significant paleontological resources. Therefore this is considered a *potentially significant* impact. The project would implement existing policies in CEQA and the interim Rancho Cordova General Plan for the protection of paleontological resources. Refer to mitigation MM 5.1 in b) above.

d) *Less than Significant Impact*. There are no known cemeteries on the project site. However, due to the large Native American population in the area in the past, the primary concern is the disturbance of hidden or unmarked sites, such as gravesites of areas of spiritual significance, which may not contain any surface evidence of occupancy. The project is not expected to result in any new cultural resource impacts. However, mitigation would ensure a *less than significant* impact to human remains. Refer to mitigation MM 5.1 in b) above.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
VI.	**GEOLOGY AND SOILS** Would the project:					
a)	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death, involving:					
	i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐	☐
	ii) Strong seismic ground shaking?	☐	☐	☒	☐	☐
	iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐	☐
	iv) Landslides?	☐	☐	☒	☐	☐
b)	Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐	☐
c)	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐	☐
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐	☐
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒	☐

Existing Setting

A report titled "Geotechnical Report for White Rock Hightech Park- Phase II, Rancho Cordova, California," was prepared by Anderson Geotechnical Consultants, Inc. (AGC) dated March 1984. The 117-acre Capital Village Development site is included within areas studied for the 1984 report. Furthermore, ENGEO prepared a Geotechnical Report for the Capital Village site in June 2004. This 2004 geotechnical report is kept on file in the City of Rancho Cordova's Planning Department. The geotechnical report states,

> *"From a geotechnical engineering viewpoint, in our opinion, the site may be developed, as planned. The primary geotechnical concerns that could affect development on the site are compressible soil and expansive soil."*

In reference to Compressible Soil, the 2004 geotechnical report states,

> *"To address the underlying compressible soil in the residential areas, we recommend that a uniform blanket of at least 3 feet of engineered fill be constructed below each building pad."*

In reference to Expansive Soil, the 2004 geotechnical report states,

> "*To reduce the potential for damage to the planned structure, we recommend that selective grading be performed such that no clay is placed within the upper 2 feet of building pads. We also recommend that other structural improvements at the project, including concrete flatwork and paving be designed for moderate to highly expansive soil conditions.*"

In conclusion, the 2004 geotechnical reports states that once the specific location and sizes of the commercial and retail buildings are known, that a geotechnical study specific to the building plan should be prepared to address specific conditions at the building location. The applicant has agreed to include these recommendations from the ENGEO report into the project design.

Discussion of Impacts

a)

(i) *Less Than Significant Impact.* The site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone and no known active fault exists within the site. The potential for impacts to public safety resulting from the rupture of a known earthquake fault is not considered to be an issue of significant environmental concern. Therefore, this is considered a *less than significant* impact.

(ii) *Less Than Significant Impact.* See response to a(i) above. The potential for strong seismic ground shaking is not a significant environmental concern due to the infrequent seismic activity of the area; however, any development would be required to comply with any seismic standards enforced by the UBC. This impact is considered *less than significant*.

(iii) *Less Than Significant Impact*. See response to a (i) above. The soil types of the project site do not constitute a potential impact for ground failure or liquefaction; therefore this impact is considered *less than significant*.

(iv) *Less Than Significant Impact.* The project site is characterized by flat terrain; as such, the project site has very low potential for landslides. This impact is considered *less than significant*.

b) *Less Than Significant Impact.* Grading activities associated with development of the project would remove vegetative cover and would expose soils to wind and surface water runoff. The project is subject to the Sacramento County Land Grading and Erosion Control Ordinance, which established administrative procedures, standards of review and enforcement procedures for controlling erosion, sedimentation, and disruption of existing drainage. Therefore, this impact is considered *less than significant*.

c) *Less Than Significant Impact.* The soil groups present on the project site have high percentages of clay, which expand with wetting and drying conditions. These soils present a mild geologic hazard due to high-shrink swell potential. The project is subject to standard construction requirements that mitigate this issue. Additionally, the project will include the measures identified in the ENGEO report. Therefore, this impact is considered *less than significant*.

d) *Less Than Significant Impact.* See c) above.

e) *No Impact.* The proposed project would not use a septic tank system or other alternative wastewater systems. The project would be served by the extension of Sacramento Regional County Sanitation District (SRCSD) facilities; therefore, there is no impact.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
VII.	**HAZARDS AND HAZARDOUS MATERIALS** Would the project:					
a)	Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?	☐	☐	☒	☐	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐	☐
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒	☐
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒	☐
e)	For a project located within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☒	☐	☐
f)	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒	☐
g)	Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐	☐
h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐	☐

Existing Setting

The initial Phase I Environmental Site Assessment was prepared for the Capital Village property by ENGEO (June 21, 2004). The 2004 Phase I Site Assessment is on file in the City of Rancho Cordova's Planning Department. The Assessment identified potential hazardous impacts resulting from including but not limited to: the exposure to off-site groundwater contamination; exposure to residual agricultural chemicals; potential Kiefer Landfill impacts; exposure to toxic air emission sources; exposure to PCB's and radon; and the potential of exposure to asbestos during the construction period.

The 2004 Phase I Site Assessment concluded,

> *"The property has been affected by historic gold mining operations that used dredges to excavate and process native soil for gold recovery. Mercury amalgamation is known*

to have been used on the dredges. It is known that some dredge tails contain detectable concentrations of mercury and that these detections are evidence of historic discharges. The October 2002 United States Environmental Protection Agency, Region 9 Preliminary Remediation Goals (PRG) show no published PRG for elemental mercury. The PRG for mercury and compounds in residential soil is 230 mg/kg and is 6.1 for methyl mercury. Dredge tails are the remnants of excavated and highly disturbed native soil. Although low, there is a potential for items that would be deemed an REC to have been buried in the dredge tails. We recommend that a limited number of surface soil samples be collected for analysis of elemental mercury and methyl mercury to assess whether mercury poses a threat to residential uses. We recommend that ENGEO be retained to evaluated debris that may be uncovered by grading of the dredge tailings."

Subsequently, ENGEO has performed the recommended Phase II Environmental Site Assessment. ENGEO collected 25 discrete near surface soil samples in a grid pattern over the Capital Village site. These 25 discrete samples were then sent to Excelchem Environmental Labs for analysis of total mercury using EPA Test Method 7471. The Phase II Environmental Site Assessment is kept on file at the City of Rancho Cordova's planning department. The results of the Phase II ESA are as follows:

"Based on the laboratory results for total mercury within the 3/8 inch or smaller size material within the near surface soil of the property, and previous available public studies that describe background concentrations of heavy metals in California soil, we conclude that mercury levels with the property are consistent with expected naturally occurring background levels. It is our opinion that no further sampling and analysis be done at this time."

Discussion of Impacts

a) *Less Than Significant Impact.* The land uses proposed as part of the project site consist of residential and landscape corridor lots, which are not associated with the use of large amounts of hazardous materials. Therefore, implementation of the project is expected to result in *less than significant* hazardous material transportation and disposal related impacts.

b) *Potentially Significant Impact.* Construction of the project as proposed would involve the use and handling of small amounts of hazardous materials associated with naturally occurring background levels, but would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Therefore, impacts involving hazards and hazardous materials are *potentially significant*.

Mitigation Measures

MM 7.1a The Capital Village project applicants shall coordinate with SMUD to ensure that all transformers, which predate 1979/1980, are sampled and analyzed as needed to determine the presence or absence of PCBs. All PCB-containing transformers shall be removed and replaced with PCB-free transformers.

Timing/Implementation: *Prior to issuance of building permits.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department and SMUD.*

MM 7.1b As development occurs, all debris, trash, refuse, and abandoned, discarded, and/or out-of-service items shall be removed from the Capital Village project site and disposed of or recycled off-site.

Timing/Implementation: *Prior to issuance of building permits.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department and SMAQMD.*

MM 7.1c If any underground storage tanks (UST) are discovered during construction activities, the UST shall be removed as required by the County Environmental Management Department (EMD), Hazardous Materials Division. In addition, groundwater and soil investigation for contamination and remediation in the tank vicinity shall be conducted if required by the EMD.

Timing/Implementation: *Prior to issuance of building permits.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department.*

Implementation of Mitigation Measures MM 7.1a through 7.1c would reduce potential PCB, underground storage tanks, and/or trash and debris impacts to *less than significant*. No other significant risks of explosion or accidental release of hazardous substances are anticipated; therefore, this impact is considered *less than significant*.

c) *No Impact.* The proposed residential uses on the project site would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste. Therefore, impacts resulting from hazardous emissions are expected to have *no impact* on schools.

d) *No Impact.* The proposed project is not located on a site, which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. As a result, it would not create a significant hazard to the public or the environment and *no impact* from a hazardous materials site is expected.

e) *Less Than Significant.* The project site is located directly northeast of Mather Field Airport. The project site is located within the Comprehensive Land Use Planning (CLUP) area of the Sacramento Mather Airport. However, it is located outside of the Mather safety zone. Implementation of the project would not adversely affect operations of this facility and is not anticipated to result in safety related hazards or adverse impacts to people residing or working on the project sites. Therefore, this impact is considered *less than significant*.

f) *No Impact.* The project area is not located within the vicinity of a private airstrip. Therefore, *no impacts* are anticipated.

g) *Less Than Significant Impact.* Implementation of the proposed project would not conflict with the *Sacramento County Multi-hazard Disaster Plan, the Sacramento County Area Plan* or any other adopted emergency response or evacuation plan. Therefore, this impact is considered *less than significant*.

h) *Less Than Significant Impact.* The project site is not adjacent to wildlands and is in an area designated for urbanized land uses. Additionally, implementation of the project would not

place residences or structure where they are intermixed with wildlands. Therefore, this impact is considered *less than significant* and does not require mitigation.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
VIII. HYDROLOGY AND WATER QUALITY. Would the project:					
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion, siltation, and or environmental harm on- or off-site?	☐	☐	☒	☐	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff during construction and after construction in a manner that would result in flooding on- or off-site?	☐	☐	☒	☐	☐
e) Potential for discharge of storm water from material storage areas, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas?	☐	☐	☒	☐	☐
f) Potential for discharge of storm water to impair the beneficial uses of the receiving waters or areas that provide water quality benefit?	☐	☐	☒	☐	☐
g) Potential for the discharge of storm water to cause significant harm on the biological integrity of the waterways and water bodies?	☐	☐	☒	☐	☐
h) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐	☐
i) Otherwise substantially degrade water quality?	☐	☐	☒	☐	☐
j) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☒	☐	☐
k) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☒	☐	☐
l) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of a failure of a levee or dam?	☐	☐	☒	☐	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
m) Inundation by seiche, tsunami or mudflow?	☐	☐	☐	☒	☐

Discussion of Impacts

a) *Less Than Significant Impact*. The project would be required to meet all applicable water quality standards and waste discharge requirements as a condition of project approval. Therefore, this project's impacts would be *less than significant*.

b) *Less Than Significant Impact*. The Capital Village development was included in the Water Management Plan prepared for the Arden-Cordova Water Service District in 1994. The project would result in impervious surfaces on substantial portions of the site that are currently undeveloped. This would change the drainage of the site, decrease absorption rates and increase run-off incrementally in the area. Development of the site would incrementally add to groundwater consumption. However, the project would be required to connect to a public water system in the area. As such, project-specific and cumulative impacts of the proposed project upon the groundwater supply would be considered *less than significant*.

c) *Less Than Significant Impact.* (See discussion a above). The project would alter the existing drainage pattern of the site and area, but would not alter the course of a stream or river and would not result in substantial erosion or siltation on- or off-site. This impact is considered *less than significant*.

d) *Less Than Significant Impact*. The project would involve the construction of impervious surfaces on substantial portions of the site that are currently undeveloped. This would change the drainage of the site, decreasing absorption rates and increasing run-off incrementally in the area. On-site drainage can be piped to an on-site water detention basin and the increase in runoff could be detained in a manner that would prevent flooding. Therefore, this impact is considered *less than significant*.

e-g) *Less Than Significant impact*. See discussions a) through d) above.

h) *Less Than Significant Impact.* See discussion a) above.

i) *Less Than Significant Impact.* The project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, provided that improvements are constructed as required by the Water Resources Division. Because this project would involve a land disturbance of more than five acres, the Regional Water Quality Control Board would require a Construction Activity Storm Water General Permit. Therefore, this impact is considered *less than significant*.

j) *Less Than Significant Impact.* According to the flood hazard and insurance rate maps, the entire project site is located outside the 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map; therefore, this impact is considered *less than significant*.

k) Less *Than Significant Impact*. See discussion g) above.

l) *Less Than Significant Impact*. See discussion g) above.

m) *No Impact*. The project site is not located near the Pacific Ocean, nor is it near a large water body that would be capable of creating a seiches or tsunami.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
IX.	**LAND USE AND PLANNING** Would the project:					
a)	Physically divide an established community?	☐	☐	☒	☐	☐
b)	Conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐	☐
c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☒	☐	☐

Discussion of Impacts

a) *Less Than Significant Impact*. The project site is currently undeveloped and is surrounded by office uses to the north, west and east, and residential uses to the south; as such, the project would not divide an established community. The surrounding area is developed with an established community surrounding the proposed project site. Implementation of the project would not result in any additional land use impacts; therefore, this impact is considered *less than significant*.

b) *Less Than Significant Impact*. The proposed project will change the type of uses that will ultimately be developed on the site. A General Plan Amendment and Special Planning Amendment are being requested by the project applicant to amend the existing land use. The General Plan Amendment calls for a change from Light Industrial to Townhouses, RD-10, and RD-15. Development of the Capital Village project would not result in any new or significant additional land use impacts beyond those identified. Therefore, this impact is considered *less than significant*.

c) *Less Than Significant Impact*. Currently, there is no adopted Habitat Conservation Plan (HCP) in Sacramento County; therefore, *less than significant* impacts are expected.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
X.	**MINERAL RESOURCES** Would the project:					
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☒	☐	☐
b)	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☒	☐	☐

Discussion of Impacts

a) *Less Than Significant Impact.* The project site is not identified by the California Division of Mines and Geology or in the Sacramento County General Plan as a high quality resource area. Additionally, planned growth and development in the area will preclude the mining and recovery of potential mineral resources (such as aggregates) in the project area. Therefore, this impact is considered *less than significant*.

b) *Less Than Significant Impact.* The Sacramento County General Plan does not designate the site as located in a mineral resource zone; therefore, this impact is considered *less than significant*.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
XI.	**NOISE.** Would the project result in:					
a)	Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or of applicable standards of other agencies?	☐	☒	☐	☐	☐
b)	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐	☐
c)	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐	☐
d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐	☐
e)	For a project located within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐	☐
f)	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒	☐

Existing Setting

Bollard and Brennan conducted an Environmental Noise Assessment for the proposed project in January 2004 (See **Appendix C**). The purpose of the analysis was to evaluate noise impacts of the proposed commercial uses and off site traffic on the proposed residential uses. The analysis specifically focused on noise generated by delivery truck passages, by mechanical equipment on the roofs of the commercial uses, parking lot activities, and by traffic on International Drive, Zinfandel Drive, Disk Drive, and Prospect Park Drive. Where project-related noise levels were predicted to exceed the Sacramento County General Plan Noise Element standards, noise reduction measures were evaluated. References to the Sacramento County Noise Ordinance shall be interpreted as the City of Rancho Cordova Noise Ordinance.

Discussion of Impacts

a) *Potentially Significant Unless Mitigated.* The Environmental Noise Assessment determined that the proposed project may expose residential land uses to noise levels that are above Sacramento County General Plan Noise Element standards. Therefore, this impact is considered *potentially significant unless mitigated.*

Mitigation Measure

MM 11.1 The project applicant shall construct a 6-foot tall noise barrier along the rear of the primary anchor truck delivery and loading dock area within the proposed

commercial use area. Loading dock usage shall be limited to daytime hours (7a.m. to 10 p.m.).

Timing/Implementation: *Prior to issuance of commercial use occupancy permits.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department.*

MM 11.2 The project applicant/developer shall construct a 2-foot tall parapet along the east roofline of the retail buildings south of Disk Drive, adjacent to the proposed residential uses. A 6-foot tall parapet shall be constructed along the east and south rooflines of the primary anchor buildings north of International Drive, adjacent to the proposed residential uses. A 3-foot tall parapet shall be constructed along the east roof line of the CMU A building at the southeast corner of International Drive and Zinfandel Drive, adjacent to the proposed residential uses. As an alternative to these parapets, a more detailed HVAC analysis may be performed when HVAC plans become available. At that time, the building parapet heights may be re-evaluated at the City's discretion.

Timing/Implementation: *Prior to issuance of commercial use occupancy permits.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department.*

MM 11.3 The project applicant shall install STC-rated 30 window assemblies in all second floor windows with a direct view of International Drive. Only the first row of homes adjacent to International Drive will need to have this upgrade. Air conditioning shall also be installed in all residences so that windows and doors may remain closed to achieve maximum acoustical isolation.

Timing/Implementation: *Prior to issuance of occupancy permits of affected residential units.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department.*

Implementation of Mitigation Measures 11.1 through 11.3 would reduce the project's potential noise impacts to *less than significant*.

b) *Less Than Significant Impact*. Implementation of the project would not generate excessive groundbourne vibration or groundbourne noise sources. Construction activities would temporarily increase groundbourne related impacts; however, standard Sacramento County Noise Ordinance requirements would reduce this impact to *less than significant*.

c) *Less Than Significant Impact*. Implementation of the project would substantially increase traffic volumes and result in changes in traffic noise levels adjacent to roadways in the vicinity of the project. To reduce potential noise impacts from these sources, the project will incorporate the use of setbacks, barriers and various site designs to help shield noise sensitive areas. Implementation of Mitigation Measure MM 11.1 would ensure compliance

with Sacramento County noise standards and reduce future ambient noise levels to *less than significant*.

d) *Less Than Significant Impact.* Implementation of the project would involve the transport and use of heavy equipment. The use of heavy equipment and other construction activities would temporarily increase the ambient noise levels in project's vicinity above existing levels. However, these increases would be periodic and subject to Sacramento County Noise Ordinance regarding construction activities.

Mitigation Measure

MM 11.4 The Capital Village project shall include standard mechanisms for mitigation of construction-related nuisances including:

- Restrictions on the hours of construction activities;
- Restrictions on noise levels associated with construction equipment;
- Watering and/or other dust control at all construction sites; and
- City approval of proposed construction storage and staging areas (including employee parking).

The project applicant shall continuously post visible signage providing a name, address, and 24-hour phone for information and/or complaints regarding the construction activities. This may be a City number if applicable.

Timing/Implementation: *Prior to issuance of building permits.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department.*

Implementation of Mitigation Measure MM 11.4 would reduce the project's potential temporary noise impacts to *less than significant*.

e) *Less Than Significant Impact.* The project is located within the Comprehensive Land Use Plan Area (CLUP) of the Sacramento Mather Airport. Although, the project is within one mile of the airport, no adverse or excessive noise impacts are anticipated. Therefore, this impact is considered *less than significant*.

f) *No Impact.* There are no private airstrips within the vicinity of the proposed project site; thus, *no impacts* would occur.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
XII.	**POPULATION AND HOUSING** Would the project:					
a)	Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☒	☐	☐
b)	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒	☐
c)	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒	☐

Discussion of Impacts

a) *Less Than Significant Impact*. The Capital Village project is requesting a General Plan Amendment, SPA Amendment and Vesting Tentative Subdivision Map for the 117-acre site. The project will include 827 residential units, including single-family and multi-family units. A significant percentage of low and moderate income housing stock already exists within the City of Rancho Cordova; therefore, this impact is considered *less than significant*.

b) *No Impact*. The proposed project will provide approximately 827 residential units on land that currently has no rural residences. Therefore, there would be no significant displacement of existing housing and no need for the construction of replacement housing elsewhere.

c) *No Impact*. See b) above, additionally, the project site does not currently contain residential structures, so no displacement of people would occur and no impacts are expected.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
XIII. PUBLIC SERVICES Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:					
a) Fire protection?	☐	☐	☒	☐	☐
b) Police protection?	☐	☐	☒	☐	☐
c) Schools?	☐	☐	☒	☐	☐
d) Parks?	☐	☐	☒	☐	☐
e) Other public facilities?	☐	☐	☒	☐	☐

Discussion of Impacts

a) *Less Than Significant Impact.* The Sacramento Metropolitan Fire Protection District will have no significant environmental impacts associated with extension of the fire protection service to the site. During the project's development, the primary calls for fire service will most likely be for emergency medical responses. The proposed projects are subject to modern fire codes, which would decrease the likeliness of structure related fire responses. Implementation of the proposed project is considered a *less than significant* impact to fire protection resources.

b*)* *Less Than Significant Impact.* The City of Rancho Cordova Police Department will provide law enforcement services to the project site. No significant environmental impacts are associated with the extension of police protection to the site. Implementation of the proposed project would result in a *less than significant* impact to law enforcement resources.

c) *Less Than Significant Impact.* The project site is located within the boundaries of the Folsom-Cordova Unified School District. By contributing towards the costs of school facilities as outlined in the proposed Financing Plan the proposed project will not impact facilities in the Folsom-Cordova Unified School District. Therefore, school facility impacts are considered *less than significant*.

d) *Less Than Significant Impact.* Title 22 of the Sacramento County Code (the Land Development Ordinance) contains implementing provisions of the Quimby Act, which sets forth obligations on residential developments to dedicate land for parks or pay fees in-lieu of dedication. The current project does not substantially impact the size and or location of parks and open space. No significant impacts to park and open space are expected as a result of the project. Therefore, the project's impacts on park and recreation services would be *less than significant*.

e) *Less Than Significant Impact.* The addition of new residences would incrementally increase the demand for new public facilities and services. Impacts to public services would not result in substantial adverse physical impacts and are considered *less than significant*.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
XIV.	**RECREATION**					
a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐	☐
b)	Does the project include recreational facilities, or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☒	☐	☐

Discussion of Impacts

a) *Less Than Significant Impact.* The project would incrementally increase the need for park and recreation services; however, the project is setting aside approximately 15 acres of park land and open space including three neighborhood parks and landscaped corridors. This land would be dedicated to the City upon completion of the project. No significant environmental impacts involving parks and recreation facilities are expected under the proposed project. Therefore, this impact is considered *less than significant*.

b) *Less Than Significant Impact*. See a) above. The potential environmental impacts of park construction and provision were addressed in the above sections. The Capital Village project includes a three neighborhood parks, open space, and landscape corridors; therefore this impact is considered *less than significant*.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
XV.	**TRANSPORTATION/TRAFFIC.** Would the project:					
a)	Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	☐	☒	☐	☐	☐
b)	Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☒	☐	☐	☐
c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒	☐
d)	Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐	☐
e)	Result in inadequate emergency access?	☐	☐	☒	☐	☐
f)	Result in inadequate parking capacity?	☐	☐	☒	☐	☐
g)	Conflict with adopted policies, plans or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☒	☐	☐

Existing Setting

MRO Engineers conducted a Traffic Impact Analysis for the proposed Capital Village Site dated December 30, 2004 (See **Appendix D**). This Traffic Impact Analysis studied traffic impacts to twenty six (26) different intersections in the project vicinity along with impacts to local freeway segments and freeway ramps. Intersection operations are typically described in terms of level of service (LOS), which is reported on a scale from LOS A (representing free-flow conditions) to LOS F (which represents substantial congestion and delay). The study found that without proposed project related traffic, the Zinfandel Drive/U.S. Highway 50 Eastbound ramp currently operates at an unacceptable level during the a.m. peak hour.

Discussion of Impacts

a) *Potentially Significant Impact Unless Mitigation Incorporated.* The Capital Village project would increase the number of vehicle trips, the volume-to-capacity ratio on roads, and congestion at intersections over existing conditions. The Traffic Impact Analysis determined that the proposed project would result in approximately 20,900 daily trips. The Traffic Impact Analysis determined that with the addition of project-related traffic, freeway segments will continue to operated at acceptable levels of service (i.e., LOS E or better).

However, the study found that the intersection of Zinfandel Drive/Data Drive would degrade in service from a LOS E to a LOS F with the addition of project related traffic. The Traffic Impact Analysis identifies needed improvements to this intersection to reduce traffic

impacts to a less than significant level. The following mitigation measure addresses these needed improvements identified in the Traffic Impact Analysis:

Mitigation Measure

MM 15.1 The project applicant shall pay its "fair share" to construct improvements including a signal at the Zinfandel Drive/Data Drive intersection. The Capital Village project applicant shall also pay its "fair share" in modifying the east and west approaches to provide a dedicated left-turn lane and shared through/right-turn lane to this intersection. The traffic signal timing shall be modified to operate the east and west approaches with "split" phasing. Percent "fair share" paid by the project applicant shall be determined by the City of Rancho Cordova's Public Works Department.

Timing/Implementation: *Construction of improvements shall commence prior to recordation of final map, and construction of improvements shall be completed prior to issuance of building permits, or to the satisfaction of the Public Works Department.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

Implementation of mitigation measure 15.1 would reduce existing plus project traffic impacts to a *less than significant* level.

b) *Potentially Significant Impact Unless Mitigation Incorporated*. Under future cumulative conditions, the Traffic Impact Analysis determined that the proposed project would impact several of the areas intersections. The following mitigation measures were identified to reduce cumulative traffic impacts incurred by the proposed project:

Mitigation Measures

MM 15.2 The project applicant shall pay its "fair share" in to construct improvements including a signal at the Zinfandel Drive/Data Drive intersection. The Capital Village project applicant shall also pay its "fair share" in modifying the east and west approaches to provide a dedicated left-turn lane and shared left through/right-turn lane to this intersection. The traffic signal timing shall be modified to operate the east and west approaches with "split" phasing. Percent "fair share" paid by the project applicant shall be determined by the City of Rancho Cordova's Public Works Department.

Timing/Implementation: *Construction of improvements shall commence prior to recordation of final map, and construction of improvements shall be completed prior to issuance of building permits, or to the satisfaction of the Public Works Department.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

MM 15.3 The project applicant shall construct a third westbound through lane to the intersection of Zinfandel Drive/White Rock Road.

Timing/Implementation: *Construction of improvements shall commence prior to recordation of final map, and construction of improvements shall be completed prior to issuance of building permits, or to the satisfaction of the Public Works Department.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

MM 15.4 The project applicant shall construct a signal for the intersection of Data Drive/Disk Drive. Furthermore, the project applicant shall provide the following improvements to the intersection:

- Northbound Data Drive: One through lane and one right-turn lane,
- Southbound Data Drive: One left-turn land and one through lane,
- Westbound Disk Drive: One left-turn lane and one right-turn lane, and
- Interconnect and coordinate signal with the adjacent signals of Zinfandel Drive/Data Drive and Prospect Park Drive (West)/Data Drive/White Rock Road.

Timing/Implementation: *Construction of improvements shall commence prior to recordation of final map, and construction of improvements shall be completed prior to issuance of building permits, or to the satisfaction of the Public Works Department.*

Enforcement/Monitoring: *City of Rancho Cordova Public*

MM 15.5 The project applicant shall provide right-turn overlap phasing on the northbound approach (simultaneous with the protected westbound left-turn phase) for the intersection of Kilgore Road/White Rock Road.

Timing/Implementation: *Construction of improvements shall commence prior to recordation of final map, and construction of*

improvements shall be completed prior to issuance of building permits, or to the satisfaction of the Public Works Department.

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

Implementation of mitigation measures 15.2 through 15.5 would reduce cumulative traffic impacts to a *less than significant* level.

c) *No Impact.* The proposed project does not involve any aviation-related uses but is located within one mile of the Sacramento Mather Airport. The project site is located within the airport over-flight zone for aircraft using the airport. Implementation of the proposed project would not result in a change in air traffic patterns; therefore *no impact* will result from the development of the site.

d) *Less Than Significant Impact*. The project does not include agriculture uses, so it is not anticipated that farm equipment will be traveling on roadways outside the project site and would not be adversely affected by the implementation of the project. The Traffic Impact Analysis determined that the on-site circulation system would allow drivers to generally move about the site safely. However, the angled parking spaces located along the main commercial access drive that connects to Zinfandel drive were identified as a possible safety risk. The placement of these angled parking spaces shall be analyzed further prior to approval of the final commercial site plan. If during this review period it is determined that these angled spaces pose a public safety risk, the spaces shall be reconfigured and or removed. This will be done to the satisfaction of the City of Rancho Cordova's Public Works Department, Planning Department, and Police Department. This more detailed analysis will ensure a *less than significant* impact.

e) *Less Than Significant Impact*. The proposed projects transportation system would ensure adequate emergency access to the project site; therefore, this impact is considered *less than significant*.

f) *Less Than Significant Impact*. The Capital Village project is subject to parking requirements established in the Sacramento County Zoning Code (which was adopted by the City upon incorporation) for the proposed land uses. Therefore, parking related impacts are considered *less than significant*.

g) *Less Than Significant Impact*. The Capital Village project will incorporate pedestrian pathways and bikeways and the routing of the collector streets will provide bikeway and pedestrian connections to regional bikeway systems and regional transit. In addition, the bikeways will meet the standards set forth in the 2010 Sacramento City/County Bikeway Master Plan. The project would not conflict with the provision of alternative modes of transportation; therefore, *less than significant* impacts are anticipated.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
XVI. UTILITIES AND SERVICE SYSTEMS Would the project:					
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐	☐
e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?	☐	☐	☐	☒	☐
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒	☐
g) Comply with federal, state and local statutes and regulations related to solid waste?	☐	☐	☐	☒	☐

Discussion of Impacts

a,b) *Less Than Significant Impact*. Currently, existing public sewer service to the subject property is available. Construction of a public collector sewer would be required to the satisfaction of County Sanitation District-1 (CSD-1), which is the agency responsible for providing public sewer service in the project area. The California Regional Water Quality Control Board (CRWQCB) has not indicated that the project will exceed wastewater treatment requirements. Compliance with the requirements of CSD-1 and the CRWQCB would ensure that impacts are *less than significant*.

c) *Less Than Significant Impact*. Paving of a portion of the site for residential development would incrementally increase stormwater runoff in the project vicinity; however, a Storm Water General Permit is required by the California Regional Water Quality Control Board for construction activity on the project site. Applicable County requirements would ensure that drainage impacts would be *less than significant*.

d) *Less Than Significant Impact*. The developer is to provide verification from the Sacramento County Water Maintenance District or the appropriate water purveyor that an adequate and potable water system is available to service the project and that a potable water supply system capable of receiving and distributing surface and groundwater shall be installed. Implementation of these standards would reduce impacts to a *less than significant* level.

e-g) *No Impact*. No impacts have been identified by any of the service providers and the project would comply with all statutes and regulations related to wastewater and solid waste.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
XVII. 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 to eliminate a plant or animal community, reduce the number or restrict the range of rare or endangered plants or animals, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? "Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.	☐	☒	☐	☐	☐
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐	☐

Discussion of Impacts

a) *Less Than Significant.* The proposed project would not degrade the quality of the environment; result in an adverse impact on fish, wildlife, or plant species including special status species, or prehistoric or historic cultural resources with implemented mitigation measures. Prehistoric or historic cultural resources would not be adversely affected because no archeological or historic resources are known to exist in the project areas and project implementation includes following appropriate procedures for avoiding or preserving artifacts or human remains should they be uncovered during project excavation.

b) *Less Than Significant Impact.* The project would not result in cumulative considerable impacts with implementation of identified mitigation measures. Furthermore, project impacts would be reduced by adherence to basic regulatory requirements and/or conditions of approval incorporated into the project design, and/or mitigation measures.

c) *Less Than Significant Impact.* The proposed project will not result in any direct or indirect adverse impacts to human beings.

4.0 Cumulative Impacts

4.1 CUMULATIVE IMPACTS

INTRODUCTION

This section addresses the project's potential to contribute to cumulative impacts in the region. CEQA Guidelines Section 15355 defines cumulative impacts as "two or more individual effects that, when considered together, are considerable or which compound or increase other environmental impacts."

CUMULATIVE SETTING

The cumulative setting for Capital Village project include buildout proposed under the Sunrise Douglas Community Plan and SunRidge Specific Plan, which includes the proposed Suncreek (Sunrise Douglas 2 Specific Plan), and the Anatolia I, II, III developments, the proposed Preserve at Sunridge, Sunridge Park, Lot J, Montelena, and Sunridge East. In addition, there are several other planned, proposed, and approved projects in the City of Rancho Cordova and eastern Sacramento County, which include, but are not limited to, Rio Del Oro and the Villages at Zinfandel, which contribute to cumulative development in the vicinity of the proposed project.

CUMULATIVE IMPACT ANALYSIS

Aesthetics

Implementation of the proposed project would not contribute to cumulative visual resource or aesthetic impacts. The project would result in ***less than significant*** impacts on aesthetic resources under cumulative conditions.

Agricultural Resources

The project would not result in cumulatively significant loss of agricultural resources or farmlands. The site is not in agricultural use and it has been previously disturbed; therefore, ***less than significant*** impacts are anticipated.

Air Quality

The proposed project would contribute to cumulative air quality impacts in the vicinity. Mitigation measures contained in Section 3.0 (Subsection III, Air Quality) of this MND would reduce the impacts to a ***less than significant*** level.

Biological Resources

The project would contribute to cumulative biological resource impacts in the project vicinity; however, implementation of the proposed mitigation measures identified in Section 3.0 (Subsection IV, Biological Resources) of this MND would mitigate the project's contribution to a cumulative loss of biological resources to ***less than significant***.

Cultural Resources

Implementation of the proposed project would not contribute to an increase in cultural resource impacts. However, mitigation measures identified in Section 3.0 (Subsection V, Cultural Resources) of this MND would ensure a ***less than significant*** cumulative impact.

Geology and Soils

Project-related impacts on geology and soils would be site-specific and implementation of the proposed project would not contribute to seismic hazards or water quality impacts associated with soil erosion. Therefore, the proposed project would have ***no impact*** on cumulative geophysical conditions in the region.

Hazards and Hazardous Materials

The project would not contribute to hazards associated with the accidental release of hazardous materials; this cumulative impact is considered ***less than significant.***

Hydrology and Water Quality

Cumulative Hydrology and Water Quality impacts are expected to be ***less than significant.***

Land Use and Planning

The project site is currently undeveloped and is surrounded by office and residential development. The surrounding area is developed with an established community surrounding the proposed project site. Therefore, the project would result in ***less than significant*** cumulative land use and planning impacts.

Mineral Resources

The proposed project would not result in any site-specific or significant impacts to mineral resources and would result in ***less than significant*** impacts under cumulative conditions.

Noise

Implementation of project would not result in temporary and permanent changes in the ambient noise levels in the vicinity that exceed noise criteria. This is considered a ***less than significant*** to cumulative noise impacts.

Population and Housing

The proposed project will provide approximately 827 residential units on land that currently is undeveloped, nor would it result in the displacement of any existing housing. Therefore, the project would result in ***less than significant*** to cumulative population and housing impacts.

Public Services

Implementation of the proposed improvements would not result in a cumulative increase in severity of public service impacts. Thus, a ***less than significant*** impact *to* public services is anticipated.

Recreation

The proposed project would increase the need for recreational facilities in the area. However, proposed recreational uses would mitigate this impact. Therefore, the project would result in ***less than significant*** cumulative impacts.

Utilities and Service Systems

The proposed project would not significantly impact utilities and or service systems. Therefore, the project would result in ***no impact*** to utilities and service systems under cumulative conditions.

Transportation/Circulation

The proposed project would increase the number of vehicle trips, the volume-to-capacity ratio on roads, and congestion at intersections over existing conditions. However, with mitigation measures presented in Section 3 of this document, the project would result in ***less than significant*** impacts to transportation and circulation.

Water

The developer is to provide verification from the Sacramento County Water Maintenance District or the appropriate water purveyor that an adequate and potable water system is available to service the project and that a potable water supply system capable of receiving and distributing surface and groundwater shall be installed. Therefore, the project would result in a ***less than significant*** impact to water supply under cumulative conditions.

5.0 Determination

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, however; there will not be a significant effect in this case because the mitigation measures described in Section 3 of this document have been added to the project. A **MITIGATED NEGATIVE DECLARATION** will be prepared.

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

☐ I find that the proposed Project **MAY** have a significant effect(s) on the environment, but one or more of such significant effects: 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, all potentially significant effects: (a) have been analyzed and adequately addressed in an earlier EIR pursuant to applicable standards, or (b) have been avoided or mitigated pursuant to that earlier EIR, previous Mitigated Negative Declaration, or this Subsequent Mitigated Negative Declaration, including revisions or mitigation measures that are imposed upon the proposed project.

Signature H Anderson Date: 2/3/05

Printed name: Hilary Anderson For City of Rancho Cordova

Per CEQA Section 15070(b)(1), the project applicant for the proposed Capital Village project has reviewed and agreed to the mitigation measures contained in this Mitigated Negative Declaration.

Signature [signature] Date: 2/3/05

Printed name: James G. VanMaren, JR For Beazer Homes

6.0 Report Preparation and Consultations

6.1 REPORT PREPARATION AND REFERENCES

CITY OF RANCHO CORDOVA- LEAD AGENCY

Paul Junker	Planning Director
Bill Campbell	Principal Planner
Hilary Anderson	Environmental Coordinator
Bret Sampson	Associate Planner
Brett Bollinger	Assistant Planner
Cyrus Abhar	City Engineer

6.2 PERSONS AND AGENCIES CONSULTED

Jeff Atterberry	CSD-1
Melanie Spahn	CSD-1
Tammy Urquhart	Sacramento County Department of Transportation
Jeane Borkenhagen	SMAQMD
George Booth	Sacramento County Drainage and Flood Control
Rick Blackmarr	Sacramento County Department of County Engineering and Administration

7.0 References

7.0 REFERENCES

ENGEO, Inc. *Phase One Environmental Site Assessment.* June 21, 2004.

ENGEO, Inc. *Geotechnical Report*. June 18, 2004.

ENGEO, Inc. *Phase II Environmental Site Assessment*. August 2, 2004.

MRO Engineers. *Traffic Impact Analysis.* Capital Village. December 30, 2004.

Pacific Municipal Consultants. *Archaeological and Historical Investigation.* January 12, 2005.

Sacramento County. *Sacramento County General Plan*. 1993.

Sacramento County. *Sacramento County General Plan EIR*. 1993.

Appendix A
Air Quality

APPENDIX A-1
CONSTRUCTION EMISSIONS

URBEMIS 2002 For Windows 7.4.2

File Name: C:\Documents and Settings\bsampson\Desktop\Capital\capitolvillagephase1.urb
Project Name: Capitol Village Phase I
Project Location: Lower Sacramento Valley Air Basin
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

CONSTRUCTION EMISSION ESTIMATES

*** 2005 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TOTALS (lbs/day,unmitigated)	24.34	184.82	171.41	0.04	66.42	8.41	58.01

URBEMIS 2002 For Windows 7.4.2

File Name: C:\Documents and Settings\bsampson\Desktop\Capital\capitolvillagephase1.urb
Project Name: Capitol Village Phase I
Project Location: Lower Sacramento Valley Air Basin
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Winter)

CONSTRUCTION EMISSION ESTIMATES

*** 2005 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TOTALS (lbs/day,unmitigated)	24.34	184.82	171.41	0.04	66.42	8.41	58.01

URBEMIS 2002 For Windows 7.4.2

File Name: C:\Documents and Settings\bsampson\Desktop\Capital\capitolvillagephase1.urb
Project Name: Capitol Village Phase I
Project Location: Lower Sacramento Valley Air Basin
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Winter)

Construction Start Month and Year: May, 2005
Construction Duration: 6
Total Land Use Area to be Developed: 116 acres
Maximum Acreage Disturbed Per Day: 5.8 acres
Single Family Units: 0 Multi-Family Units: 271
Retail/Office/Institutional/Industrial Square Footage: 0

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2005***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	58.00	-	58.00
Off-Road Diesel	19.47	123.16	165.51	-	5.35	5.35	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.17	0.26	4.41	0.00	0.02	0.01	0.01
Maximum lbs/day	19.64	123.42	169.92	0.00	63.37	5.36	58.01
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	18.68	156.37	127.97	-	7.29	7.29	0.00
Bldg Const Worker Trips	0.68	0.40	8.55	0.00	0.10	0.01	0.09
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.81	-	-	-	-	-	-
Asphalt Off-Road Diesel	4.00	25.08	33.99	-	1.05	1.05	0.00
Asphalt On-Road Diesel	0.15	2.95	0.55	0.04	0.07	0.07	0.00
Asphalt Worker Trips	0.03	0.02	0.35	0.00	0.00	0.00	0.00
Maximum lbs/day	24.34	184.82	171.41	0.04	8.51	8.41	0.10
Max lbs/day all phases	24.34	184.82	171.41	0.04	66.42	8.41	58.01

Phase 1 - Demolition Assumptions: Phase Turned OFF

Phase 2 - Site Grading Assumptions
Start Month/Year for Phase 2: May '05
Phase 2 Duration: 1.0 months
On-Road Truck Travel (VMT): 0
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
5	Graders	174	0.575	8.0
2	Off Highway Trucks	417	0.490	8.0
4	Rollers	114	0.430	8.0

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Jun '05
Phase 3 Duration: 5.0 months
Start Month/Year for SubPhase Building: Jun '05
SubPhase Building Duration: 4.5 months
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
9	Other Equipment	190	0.620	8.0

SubPhase Architectural Coatings Turned OFF
Start Month/Year for SubPhase Asphalt: Oct '05
SubPhase Asphalt Duration: 0.5 months
Acres to be Paved: 3.4
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Graders	174	0.575	8.0
1	Pavers	132	0.590	8.0
1	Rollers	114	0.430	8.0

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

The user has overridden the Default Phase Lengths

URBEMIS 2002 For Windows 7.4.2

File Name: C:\Documents and Settings\bsampson\Desktop\Capital\capitolvillagephase1.urb
Project Name: Capitol Village Phase I
Project Location: Lower Sacramento Valley Air Basin
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

Construction Start Month and Year: May, 2005
Construction Duration: 6
Total Land Use Area to be Developed: 116 acres
Maximum Acreage Disturbed Per Day: 5.8 acres
Single Family Units: 0 Multi-Family Units: 271
Retail/Office/Institutional/Industrial Square Footage: 0

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2005***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	58.00	-	58.00
Off-Road Diesel	19.47	123.16	165.51	-	5.35	5.35	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.17	0.26	4.41	0.00	0.02	0.01	0.01
Maximum lbs/day	19.64	123.42	169.92	0.00	63.37	5.36	58.01
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	18.68	156.37	127.97	-	7.29	7.29	0.00
Bldg Const Worker Trips	0.68	0.40	8.55	0.00	0.10	0.01	0.09
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.81	-	-	-	-	-	-
Asphalt Off-Road Diesel	4.00	25.08	33.99	-	1.05	1.05	0.00
Asphalt On-Road Diesel	0.15	2.95	0.55	0.04	0.07	0.07	0.00
Asphalt Worker Trips	0.03	0.02	0.35	0.00	0.00	0.00	0.00
Maximum lbs/day	24.34	184.82	171.41	0.04	8.51	8.41	0.10
Max lbs/day all phases	24.34	184.82	171.41	0.04	66.42	8.41	58.01

Phase 1 - Demolition Assumptions: Phase Turned OFF

Phase 2 - Site Grading Assumptions
Start Month/Year for Phase 2: May '05
Phase 2 Duration: 1.0 months
On-Road Truck Travel (VMT): 0
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
5	Graders	174	0.575	8.0
2	Off Highway Trucks	417	0.490	8.0
4	Rollers	114	0.430	8.0

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Jun '05
Phase 3 Duration: 5.0 months
Start Month/Year for SubPhase Building: Jun '05
SubPhase Building Duration: 4.5 months
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
9	Other Equipment	190	0.620	8.0

SubPhase Architectural Coatings Turned OFF
Start Month/Year for SubPhase Asphalt: Oct '05
SubPhase Asphalt Duration: 0.5 months
Acres to be Paved: 3.4
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Graders	174	0.575	8.0
1	Pavers	132	0.590	8.0
1	Rollers	114	0.430	8.0

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

The user has overridden the Default Phase Lengths

URBEMIS 2002 For Windows 7.4.2

File Name: C:\Documents and Settings\bsampson\Desktop\Capital\capitolvillagephase2.urb
Project Name: Capitol Village Phase 2
Project Location: Lower Sacramento Valley Air Basin
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

CONSTRUCTION EMISSION ESTIMATES

*** 2005 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TOTALS (lbs/day,unmitigated)	24.71	185.15	190.85	0.04	8.49	8.42	0.07

URBEMIS 2002 For Windows 7.4.2

File Name: C:\Documents and Settings\bsampson\Desktop\Capital\capitolvillagephase2.urb
Project Name: Capitol Village Phase 2
Project Location: Lower Sacramento Valley Air Basin
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Winter)

Construction Start Month and Year: August, 2005
Construction Duration: 5
Total Land Use Area to be Developed: 0 acres
Maximum Acreage Disturbed Per Day: 0 acres
Single Family Units: 0 Multi-Family Units: 187
Retail/Office/Institutional/Industrial Square Footage: 8000

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source *** 2005***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	18.68	156.37	127.97	-	7.29	7.29	0.00
Bldg Const Worker Trips	1.33	1.60	28.15	0.01	0.10	0.04	0.06
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.57	-	-	-	-	-	-
Asphalt Off-Road Diesel	4.00	25.08	33.99	-	1.05	1.05	0.00
Asphalt On-Road Diesel	0.10	2.08	0.38	0.03	0.05	0.05	0.00
Asphalt Worker Trips	0.03	0.02	0.35	0.00	0.00	0.00	0.00
Maximum lbs/day	24.71	185.15	190.85	0.04	8.49	8.42	0.07
Max lbs/day all phases	24.71	185.15	190.85	0.04	8.49	8.42	0.07

Phase 2 - Site Grading Assumptions: Phase Turned OFF

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Aug '05
Phase 3 Duration: 5 months
Start Month/Year for SubPhase Building: Aug '05
SubPhase Building Duration: 4.5 months
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
9	Other Equipment	190	0.620	8.0

SubPhase Architectural Coatings Turned OFF
Start Month/Year for SubPhase Asphalt: Dec '05
SubPhase Asphalt Duration: 0.5 months
Acres to be Paved: 2.4
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Graders	174	0.575	8.0
1	Pavers	132	0.590	8.0
1	Rollers	114	0.430	8.0

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

The user has overridden the Default Phase Lengths

URBEMIS 2002 For Windows 7.4.2

File Name: C:\Documents and Settings\bsampson\Desktop\Capital\capitolvillagephase2.urb
Project Name: Capitol Village Phase 2
Project Location: Lower Sacramento Valley Air Basin
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

Construction Start Month and Year: August, 2005
Construction Duration: 5
Total Land Use Area to be Developed: 0 acres
Maximum Acreage Disturbed Per Day: 0 acres
Single Family Units: 0 Multi-Family Units: 187
Retail/Office/Institutional/Industrial Square Footage: 8000

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2005***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	18.68	156.37	127.97	-	7.29	7.29	0.00
Bldg Const Worker Trips	1.33	1.60	28.15	0.01	0.10	0.04	0.06
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.57	-	-	-	-	-	-
Asphalt Off-Road Diesel	4.00	25.08	33.99	-	1.05	1.05	0.00
Asphalt On-Road Diesel	0.10	2.08	0.38	0.03	0.05	0.05	0.00
Asphalt Worker Trips	0.03	0.02	0.35	0.00	0.00	0.00	0.00
Maximum lbs/day	24.71	185.15	190.85	0.04	8.49	8.42	0.07
Max lbs/day all phases	24.71	185.15	190.85	0.04	8.49	8.42	0.07

Phase 2 - Site Grading Assumptions: Phase Turned OFF

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Aug '05
Phase 3 Duration: 5 months
Start Month/Year for SubPhase Building: Aug '05
SubPhase Building Duration: 4.5 months
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
9	Other Equipment	190	0.620	8.0

SubPhase Architectural Coatings Turned OFF
Start Month/Year for SubPhase Asphalt: Dec '05
SubPhase Asphalt Duration: 0.5 months
Acres to be Paved: 2.4
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Graders	174	0.575	8.0
1	Pavers	132	0.590	8.0
1	Rollers	114	0.430	8.0

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

The user has overridden the Default Phase Lengths

URBEMIS 2002 For Windows 7.4.2

File Name: C:\Documents and Settings\bsampson\Desktop\Capital\capitolvillagephase3.urb
Project Name: Capitol Village Phase 3
Project Location: Lower Sacramento Valley Air Basin
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

CONSTRUCTION EMISSION ESTIMATES

*** 2005 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TOTALS (lbs/day,unmitigated)	20.91	160.56	172.43	0.02	7.46	7.35	0.11

*** 2006 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TOTALS (lbs/day,unmitigated)	30.60	211.62	248.21	0.07	9.43	9.31	0.12

URBEMIS 2002 For Windows 7.4.2

File Name: C:\Documents and Settings\bsampson\Desktop\Capital\capitolvillagephase3.urb
Project Name: Capitol Village Phase 3
Project Location: Lower Sacramento Valley Air Basin
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Winter)

CONSTRUCTION EMISSION ESTIMATES

*** 2005 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TOTALS (lbs/day,unmitigated)	20.91	160.56	172.43	0.02	7.46	7.35	0.11

*** 2006 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TOTALS (lbs/day,unmitigated)	30.60	211.62	248.21	0.07	9.43	9.31	0.12

URBEMIS 2002 For Windows 7.4.2

File Name: C:\Documents and Settings\bsampson\Desktop\Capital\capitolvillagephase3.urb
Project Name: Capitol Village Phase 3
Project Location: Lower Sacramento Valley Air Basin
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Winter)

Construction Start Month and Year: October, 2005
Construction Duration: 7
Total Land Use Area to be Developed: 0 acres
Maximum Acreage Disturbed Per Day: 0 acres
Single Family Units: 0 Multi-Family Units: 203
Retail/Office/Institutional/Industrial Square Footage: 138210

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2005***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	18.68	156.37	127.97	-	7.29	7.29	0.00
Bldg Const Worker Trips	2.22	4.19	44.46	0.02	0.17	0.06	0.11
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	20.91	160.56	172.43	0.02	7.46	7.35	0.11
Max lbs/day all phases	20.91	160.56	172.43	0.02	7.46	7.35	0.11
*** 2006***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	18.68	149.46	133.02	-	6.91	6.91	0.00
Bldg Const Worker Trips	2.18	4.17	43.94	0.02	0.17	0.06	0.11
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.98	-	-	-	-	-	-
Asphalt Off-Road Diesel	8.64	55.36	71.98	-	2.27	2.27	0.00
Asphalt On-Road Diesel	0.17	2.77	0.62	0.05	0.07	0.07	0.00
Asphalt Worker Trips	0.04	0.02	0.41	0.00	0.01	0.00	0.01
Maximum lbs/day	30.60	211.62	248.21	0.07	9.43	9.31	0.12
Max lbs/day all phases	30.60	211.62	248.21	0.07	9.43	9.31	0.12

Phase 2 - Site Grading Assumptions: Phase Turned OFF

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Oct '05
Phase 3 Duration: 7 months
Start Month/Year for SubPhase Building: Oct '05
SubPhase Building Duration: 6.5 months
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
9	Other Equipment	190	0.620	8.0

SubPhase Architectural Coatings Turned OFF
Start Month/Year for SubPhase Asphalt: Apr '06
SubPhase Asphalt Duration: 0.5 months
Acres to be Paved: 4.1
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Graders	174	0.575	8.0
1	Off Highway Trucks	417	0.490	8.0
1	Pavers	132	0.590	8.0
1	Paving Equipment	111	0.530	8.0
1	Rollers	114	0.430	8.0

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

The user has overridden the Default Phase Lengths

URBEMIS 2002 For Windows 7.4.2

File Name: C:\Documents and Settings\bsampson\Desktop\Capital\capitolvillagephase3.urb
Project Name: Capitol Village Phase 3
Project Location: Lower Sacramento Valley Air Basin
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

Construction Start Month and Year: October, 2005
Construction Duration: 7
Total Land Use Area to be Developed: 0 acres
Maximum Acreage Disturbed Per Day: 0 acres
Single Family Units: 0 Multi-Family Units: 203
Retail/Office/Institutional/Industrial Square Footage: 138210

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2005***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	18.68	156.37	127.97	-	7.29	7.29	0.00
Bldg Const Worker Trips	2.22	4.19	44.46	0.02	0.17	0.06	0.11
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	20.91	160.56	172.43	0.02	7.46	7.35	0.11
Max lbs/day all phases	20.91	160.56	172.43	0.02	7.46	7.35	0.11
*** 2006***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	18.68	149.46	133.02	-	6.91	6.91	0.00
Bldg Const Worker Trips	2.18	4.17	43.94	0.02	0.17	0.06	0.11
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.98	-	-	-	-	-	-
Asphalt Off-Road Diesel	8.64	55.36	71.98	-	2.27	2.27	0.00
Asphalt On-Road Diesel	0.17	2.77	0.62	0.05	0.07	0.07	0.00
Asphalt Worker Trips	0.04	0.02	0.41	0.00	0.01	0.00	0.01
Maximum lbs/day	30.60	211.62	248.21	0.07	9.43	9.31	0.12
Max lbs/day all phases	30.60	211.62	248.21	0.07	9.43	9.31	0.12

Phase 2 - Site Grading Assumptions: Phase Turned OFF

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Oct '05
Phase 3 Duration: 7 months
Start Month/Year for SubPhase Building: Oct '05
SubPhase Building Duration: 6.5 months
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
9	Other Equipment	190	0.620	8.0

SubPhase Architectural Coatings Turned OFF
Start Month/Year for SubPhase Asphalt: Apr '06
SubPhase Asphalt Duration: 0.5 months
Acres to be Paved: 4.1
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Graders	174	0.575	8.0
1	Off Highway Trucks	417	0.490	8.0
1	Pavers	132	0.590	8.0
1	Paving Equipment	111	0.530	8.0
1	Rollers	114	0.430	8.0

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

The user has overridden the Default Phase Lengths

URBEMIS 2002 For Windows 7.4.2

File Name: C:\Documents and Settings\bsampson\Desktop\Capital\capitolvillagephase4.urb
Project Name: Capitol Village Phase 4
Project Location: Lower Sacramento Valley Air Basin
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

CONSTRUCTION EMISSION ESTIMATES

*** 2006 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TOTALS (lbs/day,unmitigated)	29.80	209.93	237.24	0.06	9.38	9.29	0.09

URBEMIS 2002 For Windows 7.4.2

File Name: C:\Documents and Settings\bsampson\Desktop\Capital\capitolvillagephase4.urb
Project Name: Capitol Village Phase 4
Project Location: Lower Sacramento Valley Air Basin
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Winter)

CONSTRUCTION EMISSION ESTIMATES

*** 2006 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TOTALS (lbs/day,unmitigated)	29.80	209.93	237.24	0.06	9.38	9.29	0.09

URBEMIS 2002 For Windows 7.4.2

File Name: C:\Documents and Settings\bsampson\Desktop\Capital\capitolvillagephase4.urb
Project Name: Capitol Village Phase 4
Project Location: Lower Sacramento Valley Air Basin
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Winter)

Construction Start Month and Year: February, 2006
Construction Duration: 6
Total Land Use Area to be Developed: 0 acres
Maximum Acreage Disturbed Per Day: 0 acres
Single Family Units: 0 Multi-Family Units: 166
Retail/Office/Institutional/Industrial Square Footage: 98297

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2006***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	18.68	149.46	133.02	-	6.91	6.91	0.00
Bldg Const Worker Trips	1.62	3.04	32.71	0.02	0.13	0.05	0.08
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.76	-	-	-	-	-	-
Asphalt Off-Road Diesel	8.64	55.36	71.98	-	2.27	2.27	0.00
Asphalt On-Road Diesel	0.13	2.16	0.48	0.04	0.06	0.06	0.00
Asphalt Worker Trips	0.04	0.02	0.41	0.00	0.01	0.00	0.01
Maximum lbs/day	29.80	209.93	237.24	0.06	9.38	9.29	0.09
Max lbs/day all phases	29.80	209.93	237.24	0.06	9.38	9.29	0.09

Phase 2 - Site Grading Assumptions: Phase Turned OFF

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Feb '06
Phase 3 Duration: 6.0 months
Start Month/Year for SubPhase Building: Feb '06
SubPhase Building Duration: 5.5 months
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
9	Other Equipment	190	0.620	8.0

SubPhase Architectural Coatings Turned OFF
Start Month/Year for SubPhase Asphalt: Apr '06
SubPhase Asphalt Duration: 0.5 months
Acres to be Paved: 3.2
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Graders	174	0.575	8.0
1	Off Highway Trucks	417	0.490	8.0
1	Pavers	132	0.590	8.0
1	Paving Equipment	111	0.530	8.0
1	Rollers	114	0.430	8.0

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

The user has overridden the Default Phase Lengths

URBEMIS 2002 For Windows 7.4.2

File Name: C:\Documents and Settings\bsampson\Desktop\Capital\capitolvillagephase4.urb
Project Name: Capitol Village Phase 4
Project Location: Lower Sacramento Valley Air Basin
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

Construction Start Month and Year: February, 2006
Construction Duration: 6
Total Land Use Area to be Developed: 0 acres
Maximum Acreage Disturbed Per Day: 0 acres
Single Family Units: 0 Multi-Family Units: 166
Retail/Office/Institutional/Industrial Square Footage: 98297

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source *** 2006***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	18.68	149.46	133.02	-	6.91	6.91	0.00
Bldg Const Worker Trips	1.62	3.04	32.71	0.02	0.13	0.05	0.08
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.76	-	-	-	-	-	-
Asphalt Off-Road Diesel	8.64	55.36	71.98	-	2.27	2.27	0.00
Asphalt On-Road Diesel	0.13	2.16	0.48	0.04	0.06	0.06	0.00
Asphalt Worker Trips	0.04	0.02	0.41	0.00	0.01	0.00	0.01
Maximum lbs/day	29.80	209.93	237.24	0.06	9.38	9.29	0.09
Max lbs/day all phases	29.80	209.93	237.24	0.06	9.38	9.29	0.09

Phase 2 - Site Grading Assumptions: Phase Turned OFF

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Feb '06
Phase 3 Duration: 6.0 months
Start Month/Year for SubPhase Building: Feb '06
SubPhase Building Duration: 5.5 months
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
9	Other Equipment	190	0.620	8.0

SubPhase Architectural Coatings Turned OFF
Start Month/Year for SubPhase Asphalt: Apr '06
SubPhase Asphalt Duration: 0.5 months
Acres to be Paved: 3.2
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Graders	174	0.575	8.0
1	Off Highway Trucks	417	0.490	8.0
1	Pavers	132	0.590	8.0
1	Paving Equipment	111	0.530	8.0
1	Rollers	114	0.430	8.0

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

The user has overridden the Default Phase Lengths

APPENDIX A-2
OPERATIONAL EMISSIONS

URBEMIS 2002 For Windows 7.4.2

File Name: C:\Documents and Settings\bsampson\Desktop\Capital\capitolvillage.urb
Project Name: Capitol Village
Project Location: Lower Sacramento Valley Air Basin
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	42.85	11.85	13.65	0.22	0.04

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	134.95	134.75	1,370.10	1.11	107.44

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	177.79	146.60	1,383.75	1.32	107.48

URBEMIS 2002 For Windows 7.4.2

File Name: C:\Documents and Settings\bsampson\Desktop\Capital\capitolvillage.urb
Project Name: Capitol Village
Project Location: Lower Sacramento Valley Air Basin
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Winter)

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	1,196.92	56.68	2,790.53	7.35	427.43

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	158.31	201.73	1,686.25	1.10	107.44

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	1,355.23	258.41	4,476.78	8.46	534.86

URBEMIS 2002 For Windows 7.4.2

File Name: C:\Documents and Settings\bsampson\Desktop\Capital\capitolvillage.urb
Project Name: Capitol Village
Project Location: Lower Sacramento Valley Air Basin
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Winter)

AREA SOURCE EMISSION ESTIMATES (Winter Pounds per Day, Unmitigated)

Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.89	11.74	4.93	-	0.02
Wood Stoves	218.73	34.31	1,752.70	5.72	285.92
Fireplaces	936.39	10.63	1,032.90	1.64	141.48
Landscaping - No winter emissions					
Consumer Prdcts	40.90	-	-	-	-
TOTALS(lbs/day,unmitigated)	1,196.92	56.68	2,790.53	7.35	427.43

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Single family housing	50.90	74.89	592.03	0.43	42.31
Condo/townhouse general	16.58	24.39	192.85	0.14	13.78
Restaurant	6.46	6.31	59.39	0.03	2.92
Retaill	84.37	96.14	841.98	0.50	48.42
TOTAL EMISSIONS (lbs/day)	158.31	201.73	1,686.25	1.10	107.44

Includes correction for passby trips.
Includes a double counting reduction for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2006 Temperature (F): 40 Season: Winter

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Trip Rate	Size	Total Trips
Single family housing	9.56 trips / dwelling units	571.00	5,458.76
Condo/townhouse general	6.71 trips / dwelling units	265.00	1,778.15
Restaurant	127.50 trips / 1000 sq. ft.	8.00	1,020.00
Retaill	48.63 trips / 1000 sq. ft.	259.69	12,628.72

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	55.60	2.20	97.30	0.50
Light Truck < 3,750 lbs	15.10	4.00	93.40	2.60
Light Truck 3,751- 5,750	15.90	1.90	96.90	1.20
Med Truck 5,751- 8,500	7.00	1.40	95.70	2.90
Lite-Heavy 8,501-10,000	1.10	0.00	81.80	18.20
Lite-Heavy 10,001-14,000	0.30	0.00	66.70	33.30
Med-Heavy 14,001-33,000	1.00	10.00	20.00	70.00
Heavy-Heavy 33,001-60,000	0.90	0.00	11.10	88.90
Line Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Urban Bus	0.10	0.00	0.00	100.00
Motorcycle	1.70	82.40	17.60	0.00
School Bus	0.10	0.00	0.00	100.00
Motor Home	1.20	0.00	91.70	8.30

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	9.7	3.8	4.6	7.8	4.5	4.5
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip Speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	27.3	21.2	51.5			
% of Trips - Commercial (by land use)						
Restaurant				5.0	2.5	92.5
Retaill				2.0	1.0	97.0

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Area

Changes made to the default values for Operations

The pass by trips option switch changed from off to on.
The operational emission year changed from 2004 to 2006.
The double counting internal work trip limit changed from to 303.574494.
The double counting shopping trip limit changed from to 151.787247.
The double counting other trip limit changed from to 3727.00865.
The travel mode environment settings changed from both to: none

URBEMIS 2002 For Windows 7.4.2

File Name: C:\Documents and Settings\bsampson\Desktop\Capital\capitolvillage.urb
Project Name: Capitol Village
Project Location: Lower Sacramento Valley Air Basin
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

AREA SOURCE EMISSION ESTIMATES (Summer Pounds per Day, Unmitigated)

Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.89	11.74	4.93	-	0.02
Wood Stoves - No summer emissions					
Fireplaces - No summer emissions					
Landscaping	1.05	0.11	8.72	0.22	0.02
Consumer Prdcts	40.90	-	-	-	-
TOTALS(lbs/day,unmitigated)	42.85	11.85	13.65	0.22	0.04

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Single family housing	48.05	49.60	517.81	0.43	42.31
Condo/townhouse general	16.73	16.16	168.67	0.14	13.78
Restaurant	4.80	4.28	43.10	0.03	2.92
Retaill	65.37	64.72	640.52	0.50	48.42
TOTAL EMISSIONS (lbs/day)	134.95	134.75	1,370.10	1.11	107.44

Includes correction for passby trips.
Includes a double counting reduction for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2006 Temperature (F): 85 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Trip Rate	Size	Total Trips
Single family housing	9.56 trips / dwelling units	571.00	5,458.76
Condo/townhouse general	6.71 trips / dwelling units	265.00	1,778.15
Restaurant	127.50 trips / 1000 sq. ft.	8.00	1,020.00
Retaill	48.63 trips / 1000 sq. ft.	259.69	12,628.72

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	55.60	2.20	97.30	0.50
Light Truck < 3,750 lbs	15.10	4.00	93.40	2.60
Light Truck 3,751- 5,750	15.90	1.90	96.90	1.20
Med Truck 5,751- 8,500	7.00	1.40	95.70	2.90
Lite-Heavy 8,501-10,000	1.10	0.00	81.80	18.20
Lite-Heavy 10,001-14,000	0.30	0.00	66.70	33.30
Med-Heavy 14,001-33,000	1.00	10.00	20.00	70.00
Heavy-Heavy 33,001-60,000	0.90	0.00	11.10	88.90
Line Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Urban Bus	0.10	0.00	0.00	100.00
Motorcycle	1.70	82.40	17.60	0.00
School Bus	0.10	0.00	0.00	100.00
Motor Home	1.20	0.00	91.70	8.30

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	9.7	3.8	4.6	7.8	4.5	4.5
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip Speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	27.3	21.2	51.5			
% of Trips - Commercial (by land use)						
Restaurant				5.0	2.5	92.5
Retaill				2.0	1.0	97.0

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Area

Changes made to the default values for Operations

The pass by trips option switch changed from off to on.
The operational emission year changed from 2004 to 2006.
The double counting internal work trip limit changed from to 303.574494.
The double counting shopping trip limit changed from to 151.787247.
The double counting other trip limit changed from to 3727.00865.
The travel mode environment settings changed from both to: none

APPENDIX A-3
OPERATIONAL AIR QUALITY MITIGATION PLAN

Operational Air Quality Mitigation Plan for
Capital Village – Rancho Cordova, CA

#	Description	Point Value
5	Entire project is located within ½ mile of an existing Class 1 or Class 2 bike lane and provides a comparable bikeway connection to that existing facility. **The proposed development is located within ½ mile of the Class 1 Folsom/South Canal bikeway (west of Sunrise). A Class 2 bike way runs from the development along International Drive to the Class 1 and other commercial/residential projects in the area.**	1.0
8	Provide a display case or kiosk displaying transportation information in a prominent area accessible to employees or residents. **Kiosks will be installed adjacent to monumentation within the project. Kiosk design is currently under development and will include business location information for the commercial site, informational newsletters for the community and transportation information (bus, light rail, etc). Locations are shown on Exhibit 1. The proponent will initiate annexation of this project into County Service Area (CSA) 10 or other non-revocable funding mechanism.**	0.5
9	High density residential, mixed, or retain/commercial uses within ¼ mile of existing transit, linking with activity centers and other planned infrastructure.	1.0
19	Loading and unloading facilities for transit and carpool/vanpool users. **These facilities will be located immediately adjacent to the bus stop location (within the commercial site at the corner of Zinfandel and Data Drive). Bus stop location provided on Exhibit 1.**	0.5
26	Average residential density 18 d.u. per acre or greater. **Average residential density is 11.5 d.u. per acre (removing acreage for streets).**	1.5
27	Multiple and direct street routing (grid style). **The project has 10" "main streets" (both north/south and east/west) designed for connectivity within the site. Internal streets are 4' on a N/S and E/W grid.**	2.5

29	Development of projects predominantly characterized by properties on which various uses, such as office, commercial, institutional, and residential, are combined in a single site. A "single site" may include contiguous properties. **The project combines a 30 acre neighborhood commercial component and also live/work units (along International Drive. These units will have the business element on the first floor and residential on the second and third floors.**	3.0
31	Neighborhood serving as focal point with parks, school and civic uses within ¼ mile.	0.5
33	The project provides a development pattern that eliminates physical barriers such as walls, berms, landscaping, and slopes between residential and non-residential uses that impede-bicycle or pedestrian circulation. **The project has been designed to be pedestrian and bike friendly with 10' detached sidewalks running as "main streets" – both north/south and east/west within the project. Interior sidewalks are 4'. These will provide connectivity within the community to the commercial area, parks, transportation, etc. No sound walls or other obstructions will be constructed in the project to impair the flow.**	1.0
41	Install lowest emitting commercially available fireplaces. **No fireplaces will be offered in any homes developed for the project.**	1.0
43	Install ozone destruction catalyst on air conditioning systems, in consultation with SMAQMD. **All air conditioning systems for residences within this project will be equipped with Premair ozone destruction catalysts.**	2.5
48	Comply with SMUD Advantage (Tier II) energy standards. **All residences within this project will comply with SMUD Advantage (Tier II) energy standards.**	0.5
51	Include permanent TMA membership and funding requirement. Funding to be provided by Community Facilities District or County Services Area or other non-revocable funding mechanism.	2.5

	The proponent will initiate annexation of this project into County Service Area (CSA) 10 or other non-revocable funding mechanisms to support ongoing transportation services for this project.	
	Total:	**18.0**

APPENDIX A-4
LETTER OF ENDORSEMENT

SACRAMENTO METROPOLITAN
AIR QUALITY
MANAGEMENT DISTRICT

Larry Greene
AIR POLLUTION CONTROL OFFICER

March 7. 2005

Ms Carol Hill
Beazer Homes
3721 Douglas Blvd, Suite 10
Roseville, Ca 95661

SUBJECT: Letter of endorsement:
Air Quality Mitigation Plan for Capital Village
File Number: RC-04-123
SMAQMD File Number: SAC200400319C

Dear Ms Hill:

This letter is in regard to the Operational Air Quality Mitigation Plan which you have submitted to the Sacramento Metropolitan Air Quality Management District (District) for the Capital Village project in the City of Rancho Cordova. We now endorse this plan (copy attached) and believe its components will help to reduce the on-going operational emissions of the project by 18%. Thank you for working with us on the plan in our joint effort to make it accurate, enforceable, and reflective of the features of the project. We have recommended to the City that the plan be included as a condition of the project.

In addition, because CEQA requires that environmental impacts be brought to the threshold of significance in Mitigated Negative Declarations, we have recommended the City require an off-site mitigation fee for operational emissions of $137,036. That check should be made out to the District and sent to my attention prior to the approval of any improvement plans. The funds will be used to reduce air quality emissions in the region.

If you have questions or comments, please contact me at 874-4885 or jborkenhagen@airquality.org.

Sincerely,

Jeane Borkenhagen
Associate Air Quality Planner Analyst

Enc: Air Quality Mitigation Plan for Captial Village

cc: Ron Maertz SMAQMD
Bret Sampson City of Rancho Cordova

777 12th Street, 3rd Floor ▮ Sacramento, CA 95814-1908
916/874-4800 ▮ 916/874-4899 fax
www.airquality.org

APPENDIX B
ARCHAEOLOGICAL AND HISTORICAL INVESTIGATION

PMC
PACIFIC MUNICIPAL CONSULTANTS

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☐ **MT. SHASTA**
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☒ **RANCHO CORDOVA**
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☐ **SAN DIEGO**
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San Diego, CA 92121
(858) 453-3602
Fax (858) 453-3628

MEMO

To: Hilary Anderson
CITY OF RANCHO CORDOVA

From: Kurt Lambert
Archaeological Technician

Cc: Bret Sampson

Date: March 15, 2005

Re: Capital Village Archaeological and Historical Investigations

Hilary:

Archaeological survey for the Capital Village Project in Rancho Cordova has been completed. The survey included a records search at the North Central Information Center at California State University, a sacred lands search by the Native American Heritage Commission, and a pedestrian survey of the 115-acre project area.

The records search identified: one previous survey, the Archaeological Inventory Report Lower American River Locality by Dames & Moore (1995), within project boundaries (i.e., the southeast corner of the project area); and that the project area is located in an area encompassed by the American River Gold Mining District. The American River Gold Mining District, historic site CA-SAC-308-H, is a large dredge-mining district measuring ten miles long and seven miles wide that was in operation from the late 1890s to 1962. Regardless, only a small portion of the district is within the Area of Potential Effects (APE) of the Capital Village Project, and this area primarily consists of leveled tailings piles that date to the 1960s. Consequently, the tailings piles do not meet the age criteria to be considered as historical resources or significant archaeological resources.

The results of the sacred lands search for the project have not been received as yet, but a previous sacred lands search for the entire City of Rancho Cordova did not identify any Native American cultural resources within city limits. Consequently, it is not anticipated that there will be any Native American concerns related to the Capital Village Project.

I conducted a pedestrian survey across the project APE on September 28-30, 2004. The survey consisted of 20-25 meter-wide transects across the entire project APE. Survey of the southern section (i.e., south of International Drive) of the project APE only identified leveled tailings piles, modern garbage, and areas affected by grading. Indeed, construction activities and illegal dumping have disturbed this area. No other cultural resources were identified in this section of the project APE. Survey of the northern section of the project APE (i.e., the area that is bordered by Disk Drive and Data Drive on the north, Prospect Park Drive on the east, International Drive on the south, and Zinfandel Drive on the west) identified leveled tailings piles and modern garbage. No other

significant cultural resources were identified in this section of the project APE, but a railroad spike and a piece of shell was noted.

In summary, archaeological investigations for the Capital Village Project in Rancho Cordova are complete. The investigations included a records search at the North Central Information Center at California State University, a sacred lands search by the Native American Heritage Commission, and a pedestrian survey of the 116-acre project area. The record search identified that the project APE is within boundaries of the American River Gold Mining District, CA-SAC-308-H. The site number, however, was assigned to the area by the North Central Information Center to facilitate organization of numerous reports in their files for the area. Consequently, the site does not have firmly demarcated boundaries or descriptions of the features that may be present within it. Indeed, there are several recent residential and commercial developments within the district and much of the district has been affected by previous construction activities (e.g., removal and/or leveling of tailings piles). Pedestrian surface survey of the project APE identified leveled tailings piles, but did not identify any other significant cultural resources. The tailings piles date to the 1960s and were leveled prior to proposal of the current project. Consequently, they have been dramatically altered from their original condition and do not meet the age criteria to be considered as historical resources or significant archaeological resources. In addition, developments (e.g., both residential and commercial) surrounding the project APE have affected the overall integrity of the area, and it should not be considered a part of CA-SAC-308-H because there are no intact historic features in the area. Any features in the area surrounding the Capital Village Project and the project APE either have been obliterated or dramatically affected by a variety of construction activities. Therefore, the Capital Village Project would not likely affect any historical resources or unique archaeological resources, and may be implemented as currently proposed.

APPENDIX C
ENVIRONMENTAL NOISE ASSESSMENT

Environmental Noise Assessment

Capital Village Project

City of Rancho Cordova, California

Bollard & Brennan Job # 2004-201

Prepared For:

Beazer Homes Northern California

3721 Douglas Blvd., Suite 100
Roseville, California 95661

Prepared By:

Bollard & Brennan, Inc.

Luke Saxelby
Validity unknown

Digitally signed by Luke Saxelby
DN: cn=Luke Saxelby, o=Bollard and Brennan, Inc., c=US
Date: 2005.01.19 12:03:54 -08'00'

Luke Saxelby, Consultant

January 19, 2004

Bollard & Brennan, Inc.
1293 Lincoln Way, Suite A - Auburn, California 95603 - (530) 745-0191 - Fax: (530) 745-0192

INTRODUCTION

The proposed Capital Village project is located east of Zinfandel Drive and south of Highway 50, in the City of Rancho Cordova, California. The project is bordered by Disk Drive to the north, Prospect Park Drive to the east, Zinfandel Drive to the west and is bisected by International Drive. The project includes various commercial and retail spaces ranging from approximately 800 sf. to 57,000 sf. The project also includes an 8,000 sf. commercial mixed use (CMU) space which will likely be used for a restaurant. High density and low density single family residential uses are proposed to be located on the project site to the east of the proposed commercial and retail uses. The project site is bordered by existing single family residential uses to the south and office buildings to the north and east of the project site. The project location and site plan are shown by Figure 1.

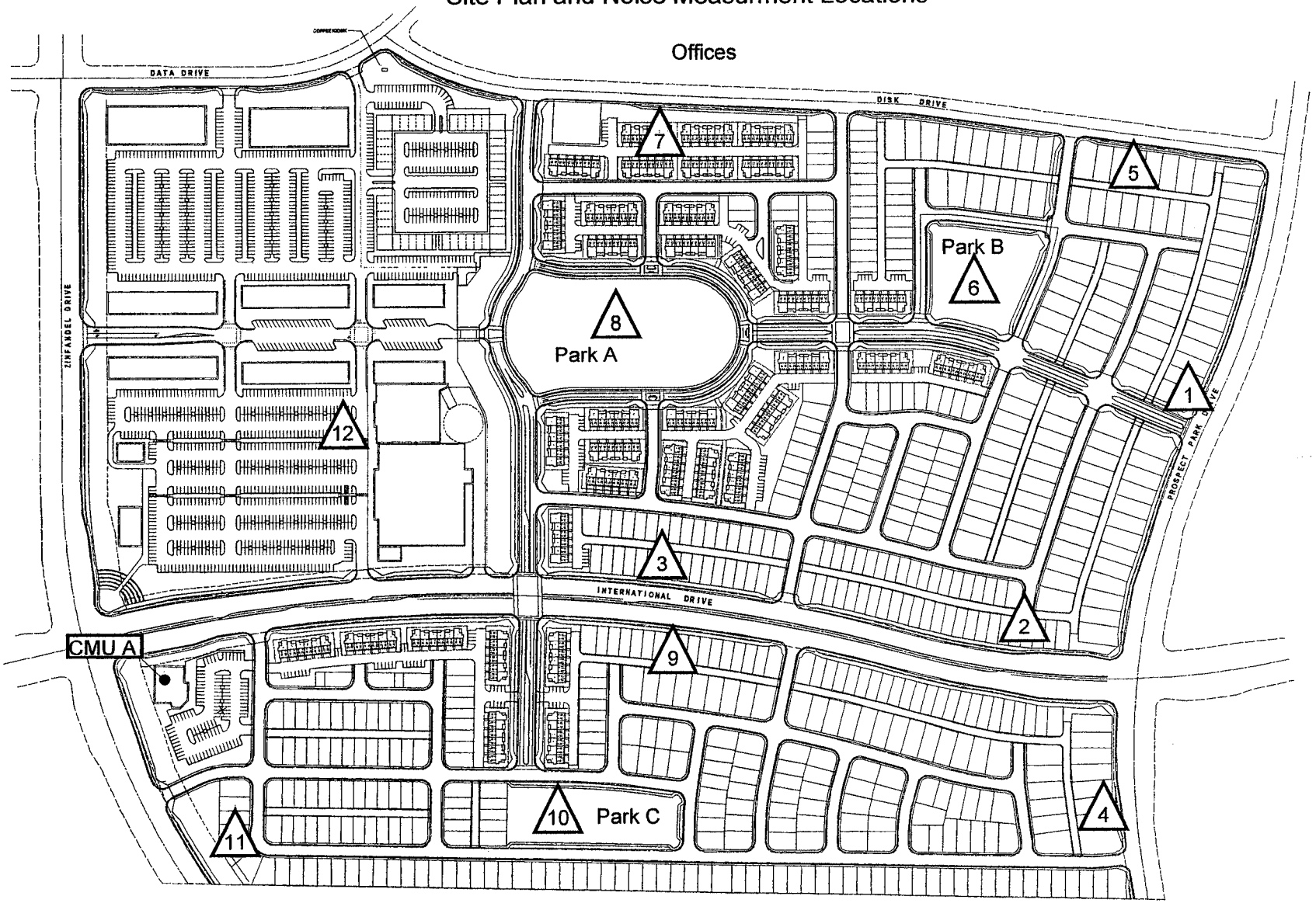
The purposes of this noise analysis are to evaluate noise impacts of the proposed commercial uses and off site traffic on the proposed residential uses. This analysis specifically focuses on noise generated by delivery truck passages, by mechanical equipment on the roofs of the commercial uses, parking lot activities, and by traffic on International Drive, Zinfandel Drive, Disk Drive, and Prospect Park Drive. The City of Rancho Cordova is in the process of developing a General Plan. Prior to the adoption of that plan, the City is utilizing the Sacramento County General Plan Noise Element standards. Therefore, this analysis will seek to achieve compliance of the Noise Element of the Sacramento County General Plan. Where project-related noise levels are predicted to exceed the Sacramento County General Plan Noise Element standards, noise reduction measures are evaluated.

ACOUSTICAL BACKGROUND AND TERMINOLOGY[1]

Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard and hence are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second, called Hertz (Hz).

1. For an explanation of the these terms, please refer to Appendix A, Acoustical Terminology

Figure 1
Capital Village Project
Site Plan and Noise Measurment Locations



△ # : Short Term Noise Measurement Location

Bollard & Brennan, Inc.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to the reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB. Another useful aspect of the decibel scale is that changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by weighing the frequency response of a sound level meter by means of the standardized A-weighing network. There is a strong correlation between A-weighted sound levels (expressed as dBA) and community response to noise. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels.

CRITERIA FOR ACCEPTABLE NOISE EXPOSURE

The City of Rancho Cordova is in the process of developing a General Plan. Prior to the adoption of that plan, the City is utilizing the Sacramento County General Plan Noise Element standards. For the purposes of evaluating noise impacts due to new projects, the criteria contained within the Noise Element of the General Plan are used. The Sacramento County General Plan Noise Element establishes acceptable noise level criteria for both transportation and non-transportation noise sources. Table 1 provides the noise level performance criteria for new projects which are affected by or including non-transportation noise sources, such as those attributed to loading dock operations, and parking lot activities. These criteria are applied at the property line of noise-sensitive land uses.

For transportation noise sources, such as roadway noise, the Sacramento County General Plan establishes an "Acceptable" exterior noise level standard for residential uses of 60 dB Ldn, which is applied in the outdoor activity areas. A "Conditionally Acceptable exterior noise level standard of 65 dB Ldn is applied only after careful study and inclusion of protective measures as needed for intended use. An interior noise level standard of 45 dB Ldn is also specified for residential uses.

Table 1
Exterior Hourly Noise Level Performance Standards for Stationary Noise Sources
Sacramento County General Plan

	Maximum Acceptable Noise Level, dBA	
Minutes/Hour of Noise Generation (L_n)	Daytime (7 am - 10 pm)	Nighttime (10 pm - 7 am)
30 (L_{50})	50	45
15 (L_{25})	55	50
5 ($L_{8.3}$)	60	55
1 ($L_{1.7}$)	65	60
0 (L_{max})	70	65

Note: L_n means the percentage of time the noise level is exceeded during an hour. L_{50} means the level exceeded 50% of the hour, L_{25} is the level exceeded 25% of the hour, etc.

For the purposes of this project, the median hourly level or L_{50} criterion and the maximum L_{max} criterion are the most appropriate determining compliance with the County criteria.

EXISTING AMBIENT NOISE ENVIRONMENT

The existing noise environment at the project site is defined primarily by traffic on the local roadway network. To generally quantify existing ambient noise levels at the project site, Bollard & Brennan, Inc. conducted short-term noise level measurements on the project site on August 6, 2004. Figure 1 shows the noise measurement locations.

A Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meter was used for the noise level measurement survey. The meter was calibrated before and after use with an LDL Model CA200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

The noise level measurements were conducted to determine typical average and maximum noise levels in the immediate project vicinity and to calibrate the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108). Table 2 shows a summary of the results of the ambient noise level measurements.

Table 2
Summary of Ambient Noise Measurement Results
Capital Village Project - Rancho Cordova, California

Site #	Location	Average (Leq)	Maximum (Lmax)
1	East side of site, 75' from Prospect Park Dr. C.L.	55 dB	72 dB
2	Southeast corner of site, 100' north of International Drive C.L.	62 dB	78 dB
3	South side of site, 100' north of International Drive C.L.	62 dB	82 dB
4	Southeast corner of site, south of International Drive.	51 dB	62 dB
5	Northeast corner of site, 75' south of Disk Drive C.L.	55 dB	65 dB
6	Proposed Park B site, northeast region of site.	55 dB	69 dB
7	North side of site, south of Disk Dr.	56 dB	62 dB
8	Proposed Park C Site, central region of site.	57 dB	64 dB
9	South side of site, 100' south of International Drive C.L.	62 dB	74 dB
10	Proposed Park C Site, central region of site	56 dB	65 dB
11	Southwest corner of site, 150' from Zinfandel Dr. C.L.	56 dB	68 dB
12	Center of commercial region of site	55 dB	61 dB

Notes: Source - Bollard & Brennan, Inc.

The results of the ambient noise survey indicate that the project site is exposed to noise levels that are typical of urban areas exposed to transportation noise sources. The results indicate that traffic on International Drive is the most significant noise source in the immediate project vicinity.

EVALUATION OF FUTURE TRAFFIC NOISE LEVELS AT THE PROJECT SITE

Traffic Noise Prediction Methodology:

Bollard & Brennan, Inc. employs the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108) for the prediction of traffic noise levels. The FHWA model is the analytical method currently favored for traffic noise prediction by most state and local agencies, including the California Department of Transportation (Caltrans). The model is based upon the CALVENO noise emission factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site.

On August 6, 2004, Bollard and Brennan, Inc. conducted on-site noise level measurements and concurrent traffic counts of International Drive, Zinfandel Drive, Disk Drive, and Prospect Park Drive. The purpose of the short-term traffic noise level measurements was to determine the accuracy of the FHWA model in describing the existing noise environment on the project site, accounting for shielding from local topography, actual travel speeds, and roadway grade. Noise measurement results were compared to the FHWA model results by entering the observed traffic volume, speed and distance as inputs to the FHWA model. See Figure 1 for noise measurement locations.

Instrumentation used for the measurements were Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters which were calibrated in the field before use with an LDL CA-200 acoustical calibrator. Due to insufficient traffic volumes, Zinfandel Drive, Disk Drive, and Prospect Park Drive were not able to be calibrated. Based upon the calibration results, the FHWA Model was found to accurately predict International Drive traffic noise levels within 1 dB, on the project site. Therefore, no correction to the FHWA Model was applied to predicted traffic noise levels throughout this analysis. Appendix B shows the complete inputs to the FHWA Calibration Model.

Future Exterior Traffic Noise Levels:

To determine the future traffic noise levels on the project site, Bollard & Brennan, Inc. utilized traffic data, obtained from MRO Engineers. Table 3 shows the predicted future traffic noise levels at the project site. Appendix C provides the inputs to the FHWA Traffic Noise Prediction Model.

Table 3
Predicted Future Traffic Noise Levels

			Distance to Noise Contours[1]	
Roadway	Location	Noise Level, (Ldn)	60 dB Ldn	65 dB Ldn
International Dr.	Nearest Building Facades	68 dB	304 feet	141 feet
	Park A	47 dB [2]		
	Park C	46 dB [2]		
Zinfandel Drive	Nearest Building Facades	63 dB	203 feet	94 feet
Disk Dr.	Nearest Building Facades	63 dB	88 feet	41 feet
	Park B	42 dB [2]		
Prospect Park Dr.	Nearest Building Facades - N. of International Dr.	60 dB	70 feet	33 feet
	Nearest Building Facades - S. of International Dr.	60 dB	71 feet	33 feet

[1] Predicted distances to noise level contours are from the roadway centerline.
[2] Park locations include a -10 dB shielding offset from the proposed residential buildings.
Note: A complete listing of the FHWA Model inputs and results is provided in Appendix C.

Typically, the Sacramento County exterior noise levels standards would be applied to the backyard or patio areas of the proposed residential uses. However, the proposed residential dwellings do not have standard backyard or patio areas. In this respect, the project is similar to a multi-family development. For multi-family developments, the exterior noise level standard is often applied at a "common outdoor activity area" such as a common swimming pool or park area. The proposed project includes three park sites. Therefore, this analysis will seek to achieve compliance with the Sacramento County exterior noise level standard at the nearest park sites.

Based upon the results shown in Table 3, the predicted future traffic noise levels at the proposed park sites would not exceed the Sacramento County General Plan 60 dB Ldn exterior noise level criterion. Therefore, no additional exterior traffic noise reduction measures will be required.

Future Interior Traffic Noise Levels:

Worst case exterior traffic noise levels at the first row of residences adjacent to International Drive are predicted to be 68 dB Ldn. Additionally, second floor facades will be exposed to traffic noise levels approximately 2-3 dB higher than first floor facades due to reduced ground attenuation. Therefore, the second floor facades of residences with direct exposure to traffic noise are predicted to be exposed to traffic noise levels up to 71 dB Ldn. Therefore, building facade noise level reductions of 23 dB and 26 dB will be required to reduce interior traffic noise levels to a state of compliance with the Sacramento County 45 dB Ldn interior noise level standard at first and second floor building facades, respectively.

Standard residential construction (wood siding or one-coat stucco siding, STC-26 windows, door weatherstripping, exterior wall insulation, composition plywood roof, etc.), results in an exterior to interior noise reduction of about 25 dB with windows closed, and approximately 15 dB with windows open.

Based upon a 25 dB building facade noise reduction provided by standard residential construction, interior traffic noise levels at second floor receivers are predicted to exceed the Sacramento County interior noise level standard of 45 dB Ldn for the proposed residences located closest to International Drive. In order to achieve compliance with the Sacramento County 45 dB Ldn interior noise level standard, STC 30 rated window assemblies should be installed in all second floor windows with a direct view of International Drive.

Residences adjacent to Zinfandel Drive, Disk Drive, and Prospect Park Drive are not predicted to be exposed to first or second floor exterior traffic noise levels exceeding 66 dB Ldn. Therefore, no interior noise level mitigation is warranted at these locations, assuming a standard 25 dB exterior to interior noise level reduction with windows closed.

Air conditioning should also be installed in all residences so that windows and doors may remain closed to achieve maximum acoustical isolation.

PROJECT NOISE GENERATION AND POTENTIAL NOISE IMPACTS

Potential Truck Circulation and Loading Dock Noise Impacts

There are a number of various retail uses in the northwest quadrant of the project site. Most of these retail uses will be front-loaded by side step vans and small delivery trucks. These delivery activities would not be a significant noise source at the adjacent proposed residential uses due to distance and shielding from the proposed retail buildings. However, the primary retail anchors will have a loading dock which may include deliveries from semi trucks as well as step side vans. At this time, it is not known what retailers will eventually occupy the main anchor buildings. Based upon recent noise studies conducted by Bollard & Brennan, Inc. for similar sized commercial uses, conservative estimates were made to predict the peak hour truck circulation at the rear delivery area of the primary anchors. It was conservatively estimated that a busy hour would consist of two semi truck deliveries and 4 step side van deliveries to the primary anchors.

Based upon the site plan, delivery trucks will enter and exit from International Drive. The nearest on-site truck passages will be approximately 160 feet from the proposed residences to the east. Bollard & Brennan, Inc. has collected noise level data for individual truck arrival, unloading and departure for loading dock operations. Typical noise levels for semi trucks at a reference distance of 50 feet are 88 dB SEL and 82 dB Lmax. Side step vans typically generate noise levels of 76 dB SEL and 70 dB Lmax at a distance of 50 feet.

Based upon the overall noise levels due to truck passbys and loading dock operations, the noise level data and operational data described above, the hourly Leq can be determined using the following formula:

$$Leq = 88 + 10^* (\log \#\ \text{of operations}) - 35.6,\ \text{dB}$$ where:

88 is the mean sound exposure level (SEL) for a truck arrival and departure, and 10* (log # operations) is 10 times the logarithm of the number of truck arrivals and departures during an hour, and 35.6 is 10 times the logarithm of the number of seconds in an hour. Based upon the above formula, the predicted hourly Leq is approximately 55 dB at 50 feet.

Based upon a distance of 160 feet to the nearest proposed residences to the north, the predicted hourly noise levels at the residences are 48 dB Leq and 72 dB Lmax. Due to the limited time during the hour that noise due to truck traffic occurs, the L50 noise level is conservatively estimated to be 5 dB less than the predicted Leq value. Therefore, the predicted L50 value is 43 dB.

The predicted delivery truck noise levels are not expected to exceed the daytime or nighttime hourly L50 noise level criterion of 50 dB and 45 dB L50, respectively, at the nearest residential receivers. However, the predicted noise levels are expected to exceed the daytime and nighttime maximum noise level criterion of 70 dB and 65 dB Lmax, respectively. Therefore, noise reduction options would be necessary to comply with the Sacramento County exterior noise level standards.

In order to reduce exterior truck noise levels at the nearest residential uses, a barrier analysis was performed. The results of this analysis indicate that a 6-foot tall noise barrier would reduce delivery truck noise levels to a state of compliance with the Sacramento County 70 dB Lmax daytime exterior noise level standard at the nearest residential uses. Maximum delivery truck noise levels would still exceed the Sacramento County nighttime exterior noise level standard. However, it is not expected that regular nighttime (10 p.m. to 7 a.m.) usage of the loading docks would occur. If nighttime loading dock activities are necessary, than an 11-foot tall noise barrier would need to be constructed to achieve the Sacramento County 65 dB Lmax exterior noise level standard. Appendix D provides the complete results and inputs of the barrier analysis. Figure 2 shows the recommended barrier loaction.

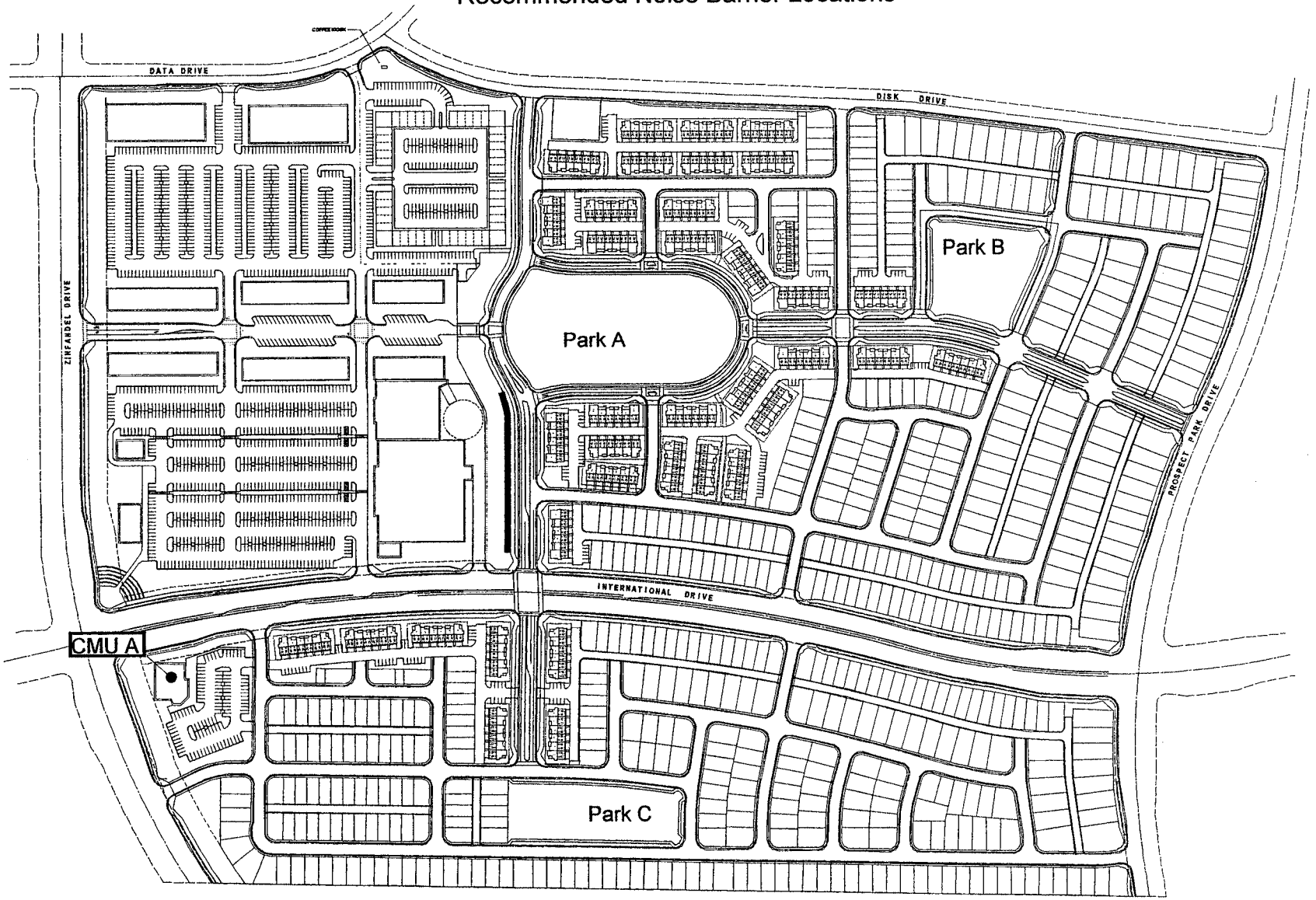
Mechanical Equipment Noise

HVAC mechanical equipment at the commercial uses associated with the project could generate noise levels exceeding the Sacramento County General Plan Noise Element standards for residential uses exposed to stationary noise sources. There are three locations on the project site where the HVAC equipment could be a potential problem. The impacts of HVAC noise on the nearest residential uses was considered adjacent to the retail shops south of Disk Drive, the primary anchor buildings north of International Drive, and the Commercial Mixed Use A (CMU A) at the southeast corner of Zinfandel Drive and International Drive.

HVAC Noise From Retail Shops:

Based on discussions with the project engineer, each of the 800 sf. retail shops south of Disk Drive will have packaged roof-top HVAC units. It was assumed that these units will provide approximately one ton of cooling per 350 sf. of retail space. Based upon this estimate, the cooling capacity for each of the retail pads was calculated. Noise levels for the roof-top HVAC units were calculated based upon published data for packaged HVAC units (Bolt Beranek and Newman Inc., *Noise Control for Buildings and Manufacturing Plants*). The hourly average noise level for the HVAC units is predicted to be 49 dB Leq/L50 at the nearest residential uses, without consideration of shielding by the building rooftops or parapets. This level does not exceed the Sacramento County daytime exterior noise level standard of 50 dB L50. However, this level would exceed the Sacramento County nighttime exterior noise level standard of 45 dB L50. In order to estimate the amount of shielding provided by the building parapet, a barrier analysis was performed. The results of this analysis indicate that a 2-foot tall parapet would reduce HVAC noise levels to a state of compliance with the Sacramento County 45 dB L50 nighttime exterior noise level standard at the nearest residential uses. Appendix E provides the complete results and inputs of the barrier analysis.

Figure 2
Capital Village Project
Recommended Noise Barrier Locations



▬ : Recommended Noise Barrier

Bollard & Brennan, Inc.

HVAC Noise From Primary Anchor Uses:

Based on discussions with the project engineer, each of the primary anchors will have packaged roof-top HVAC units. It was assumed that these units will provide approximately one ton of cooling per 350 sf. of retail space. Based upon this estimate, it was assumed that the main anchor building would have eleven 20-ton HVAC units evenly dispersed over the roof-top. Noise levels for the roof-top HVAC units were calculated based upon published data for packaged HVAC units (Bolt Beranek and Newman Inc., *Noise Control for Buildings and Manufacturing Plants*). The hourly average noise level for the HVAC units is predicted to be 52 dB Leq/L50 at the nearest residential uses, without consideration of shielding by the building rooftops or parapets. This level would exceed the Sacramento County daytime and nighttime exterior noise level standards of 50 dB and 45 dB L50, respectively. In order to estimate the amount of shielding provided by the building parapet, a barrier analysis was performed. The results of this analysis indicate that a 6-foot tall parapet would reduce HVAC noise levels to a state of compliance with the Sacramento County daytime and nighttime exterior noise level standards of 50 dB and 45 dB L50, respectively. Appendix E provides the complete results and inputs of the barrier analysis. As an alternative to the 6-foot tall parapet, a more detailed analysis of HVAC noise levels could be conducted when specific mechanical plans become available.

HVAC Noise From CMU A:

Based on discussions with the project engineer, the 8,000 sf. CMU A use at the southeast corner of Zinfandel Drive and International Drive will have packaged roof-top HVAC units. It was assumed that these units will provide approximately one ton of cooling per 250 sf. of restaurant space. Based upon this estimate, it was assumed that the CMU building will have two 15-ton HVAC units evenly dispersed along the roof-top. Noise levels for the roof-top HVAC units was calculated based upon published data for packaged HVAC units (Bolt Beranek and Newman Inc., *Noise Control for Buildings and Manufacturing Plants*). The hourly average noise level for the HVAC unit is predicted to be 50 dB Leq/L50 at the nearest residential uses, without consideration of shielding by the building rooftop or parapets. This level exceeds the Sacramento County daytime and nighttime exterior noise level standards of 50 dB L50 and 45 dB L50, respectively. In order to estimate the amount of shielding provided by the building parapet, a barrier analysis was performed. The results of this analysis indicate that a 3-foot tall parapet would reduce HVAC noise levels to a state of compliance with the Sacramento County daytime and nighttime exterior noise level standards at the nearest residential uses. Appendix E provides the complete results and inputs of the barrier analysis.

Parking Lot Circulation:

CMU A Parking Lot:

Parking lot activities could generate noise levels exceeding the Sacramento County exterior noise level standards at the nearest residential property lines. However, most of the residential uses will receive a significant amount of shielding from the parking lots by the intervening retail use buildings. The residential uses south of International Drive, near Zinfandel Drive, are the only residential uses with unshielded exposure to significant parking lot activities. Therefore, a detailed analysis of parking lot noise levels was conducted for these residential uses.

The center of the CMU A parking lot is located approximately 120 feet from the nearest residential uses. For the purposes of this analysis, this distance will be considered the focal point where parking activity noise is generated.

As a means of determining the noise levels due to parking lot activities Bollard & Brennan, Inc. utilized noise level data collected for parking lots. A typical SEL due to automobile arrivals and departures, including car doors slamming and people conversing is approximately 71 dB, at a distance of 50 feet. Assuming that all 105 parking spaces will fill and empty during a peak hour, the peak hour parking lot Leq noise level can be determined using the following formula:

$$\text{Peak Hour Leq} = 71 + 10 * \log(105) - 35.6, \text{ dB where:}$$

71 is the mean sound exposure level (SEL) for an automobile arrival and departure, and 10 * (log 105) is 10 times the logarithm of the number of automobile arrivals and departures per hour, and 35.6 is 10 times the logarithm of the number seconds in an hour.

Based upon the equation above, this parking lot would result in a daytime peak hour Leq of approximately 56 dB, at a distance of 50 feet. At 120 feet, the predicted noise level, at the nearest residential use would be 48 dB Leq. The L50 noise level is typically 3-5 dB less than the Leq value for parking lot noise. Therefore the predicted parking lot noise level is 43-45 dB L50 at the nearest residential uses. This level satisfies the Sacramento County daytime and nighttime noise level criteria of 50 dB and 45 dB L50, respectively.

The nearest parking space at the CMU A parking lot is located 60 feet from the nearest residential property line. At this distance the maximum parking lot noise level is predicted to be 59 dB Lmax. This level complies with the Sacramento County daytime and nighttime maximum noise level standard of 70 dB and 65 dB Lmax.

Primary Anchor Parking Lot:

The residential uses south of International Drive, near Zinfandel Drive, also receive unshielded exposure to the 690 space primary anchor parking lot to the north. Using the same methodology discussed previously, the predicted parking lot noise levels were calculated to be 40-42 dB L50 and 42 dB Lmax at these residential uses. The predicted parking lot noise levels comply with the Sacramento County daytime and nighttime exterior noise level standards.

CONCLUSIONS

As a means of achieving the Sacramento County General Plan noise level criteria, as applied by the City of Rancho Cordova, the following requirements would need to be included in the project design for this site.

1. A 6-foot tall noise barrier should be constructed along the rear of the primary anchor truck delivery and loading dock area. Loading dock usage should be limited to daytime hours (7 a.m. to 10 p.m.). If nighttime utilization of the loading dock area is necessary, an 11-foot tall noise barrier should be constructed. Figure 2 shows the recommended noise barrier location.

2. A 2-foot tall parapet should be constructed along the east roofline of the retail buildings south of Disk Drive, adjacent to the proposed residential uses. A 6-foot tall parapet should be constructed along the east and south roof lines of the primary anchor buildings north of International Drive, adjacent to the proposed residential uses. A 3-foot tall parapet should be constructed along the east roof line of the CMU A building at the southeast corner of International Drive and Zinfandel Drive, adjacent to the proposed residential uses. As an alternative to these parapets, a more detailed HVAC analysis may be performed when HVAC plans become available. At that time, the building parapet heights can be re-evaluated.

3. STC rated 30 window assemblies should be installed in all second floor windows with a direct view of International Drive. Only the first row of homes adjacent to International Drive would need to have this upgrade. Air conditioning should also be installed in all residences so that windows and doors may remain closed to achieve maximum acoustical isolation.

These conclusions are based on the assumptions stated in this report, site plans provided by the project applicant, traffic predictions provided by the MRO, published literature for HVAC equipment, noise reduction data for standard residential dwellings and for typical STC rated window data. Bollard & Brennan, Inc. is not responsible for degradation in acoustic performance of the residential construction due to poor construction practices, failure to comply with applicable building code requirements, or for failure to adhere to the minimum building practices cited in this report.

Appendix A

Acoustical Terminology

Acoustics The science of sound.

Ambient Noise The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.

Attenuation The reduction of an acoustic signal.

A-Weighting A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.

Decibel or dB Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.

Frequency The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz.

Ldn Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.

Leq Equivalent or energy-averaged sound level.

Lmax The highest root-mean-square (RMS) sound level measured over a given period of time.

Loudness A subjective term for the sensation of the magnitude of sound.

Masking The amount (or the process) by which the threshold of audibility is for one sound is raised by the presence of another (masking) sound.

Noise Unwanted sound.

Peak Noise The level corresponding to the highest (not RMS) sound pressure measured over a given period of time. This term is often confused with the "Maximum" level, which is the highest RMS level.

RT_{60} The time it takes reverberant sound to decay by 60 dB once the source has been removed.

Sabin The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 sabin.

SEL A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy of the event into a 1-s time period.

Threshold of Hearing The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.

Threshold of Pain Approximately 120 dB above the threshold of hearing.

Appendix B-1

FHWA Traffic Noise Prediction Model (FHWA-RD-77-108) Calibration Worksheet

Project Information:

Job Number: 2004-201
Project Name: Capital Village
Roadway Tested: International Dr.
Test Location: Site #2
Test Date: August 6, 2004

Weather Conditions:

Temperature (Fahrenheit): 80
Relative Humidity: Dry
Wind Speed and Direction: 0-5 South
Cloud Cover: Clear

Sound Level Meter:

Sound Level Meter: LDL Model 820
Calibrator: LDL Model CA200
Meter Calibrated: Immediately before and after test
Meter Settings: A-weighted, slow response

Microphone:

Microphone Location: On Project Site
Distance to Centerline (feet): 100
Microphone Height: 5 feet above ground
Intervening Ground (Hard or Soft): **Soft**
Elevation Relative to Road (feet): 5

Roadway Condition:

Pavement Type Asphalt
Pavement Condition: Good
Number of Lanes: 4
Posted Maximum Speed (mph): 45

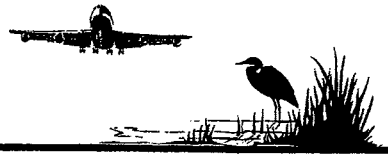
Test Parameters:

Test Time: 10:20 AM
Test Duration (minutes): 15
Observed Number Automobiles: 77
Observed Number Medium Trucks: 2
Observed Number Heavy Trucks: 1
Observed Average Speed (mph): 50

Model Calibration:

Measured Average Level (L_{eq}): 59.5
Level Predicted by FHWA Model: 59.2
Difference: ***-0.3 dB***

Conclusions:



Appendix B-2

FHWA Traffic Noise Prediction Model (FHWA-RD-77-108) Calibration Worksheet

Project Information:	Job Number:	2004-201
	Project Name:	Capital Village
	Roadway Tested:	International Dr.
	Test Location:	Site #3
	Test Date:	August 6, 2004
Weather Conditions:	Temperature (Fahrenheit):	80
	Relative Humidity:	Dry
	Wind Speed and Direction:	0-5 South
	Cloud Cover:	Clear
Sound Level Meter:	Sound Level Meter:	LDL Model 820
	Calibrator:	LDL Model CA200
	Meter Calibrated:	Immediately before and after test
	Meter Settings:	A-weighted, slow response
Microphone:	Microphone Location:	On Project Site
	Distance to Centerline (feet):	100
	Microphone Height:	5 feet above ground
	Intervening Ground (Hard or Soft):	**Soft**
	Elevation Relative to Road (feet):	5
Roadway Condition:	Pavement Type	Asphalt
	Pavement Condition:	Good
	Number of Lanes:	4
	Posted Maximum Speed (mph):	45
Test Parameters:	Test Time:	10:47 AM
	Test Duration (minutes):	15
	Observed Number Automobiles:	87
	Observed Number Medium Trucks:	1
	Observed Number Heavy Trucks:	2
	Observed Average Speed (mph):	50
Model Calibration:	Measured Average Level (L_{eq}):	59.5
	Level Predicted by FHWA Model:	60.0
	Difference:	***0.5 dB***

Conclusions:

Appendix B-3

FHWA Traffic Noise Prediction Model (FHWA-RD-77-108) Calibration Worksheet

Project Information:

Job Number: 2004-201
Project Name: Capital Village
Roadway Tested: International Dr.
Test Location: Site #9
Test Date: August 6, 2004

Weather Conditions:

Temperature (Fahrenheit): 90
Relative Humidity: Dry
Wind Speed and Direction: 5-10 West
Cloud Cover: Clear

Sound Level Meter:

Sound Level Meter: LDL Model 820
Calibrator: LDL Model CA200
Meter Calibrated: Immediately before and after test
Meter Settings: A-weighted, slow response

Microphone:

Microphone Location: On Project Site
Distance to Centerline (feet): 100
Microphone Height: 5 feet above ground
Intervening Ground (Hard or Soft): **Soft**
Elevation Relative to Road (feet): 5

Roadway Condition:

Pavement Type Asphalt
Pavement Condition: Good
Number of Lanes: 4
Posted Maximum Speed (mph): 45

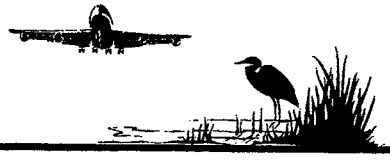
Test Parameters:

Test Time: 3:13 PM
Test Duration (minutes): 15
Observed Number Automobiles: 124
Observed Number Medium Trucks: 2
Observed Number Heavy Trucks: 1
Observed Average Speed (mph): 50

Model Calibration:

Measured Average Level (L_{eq}): 61.9
Level Predicted by FHWA Model: 60.8
Difference: ***-1.1 dB***

Conclusions:



Appendix C-1

FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
Noise Prediction Worksheet

Project Information:

Job Number: 2004-201
Project Name: Capital Village
Roadway Name: International Dr.

Traffic Data:

Year:	2025
Average Daily Traffic Volume:	26,280
Percent Daytime Traffic:	83
Percent Nighttime Traffic:	17
Percent Medium Trucks (2 axle):	2
Percent Heavy Trucks (3+ axle):	1
Assumed Vehicle Speed (mph):	45
Intervening Ground Type (hard/soft):	**Soft**

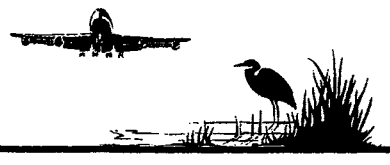
Traffic Noise Levels:

				L_{dn}, dB			
Location:	Description	Distance	Offset (dB)	Autos	Medium Trucks	Heavy Trucks	Total
1	Nearest Building Facades	90	0	67	58	60	68
2	Park A	500	-10	46	37	38	47
3	Park C	550	-10	45	36	38	46

Traffic Noise Contours (No Calibration Offset):

L_{dn} Contour, dB	Distance from Centerline, (ft)
75	30
70	65
65	141
60	304

Notes:



Appendix C-2

FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
Noise Prediction Worksheet

Project Information:

Job Number: 2004-201
Project Name: Capital Village
Roadway Name: Zinfandel Drive

Traffic Data:

Year:	2025
Average Daily Traffic Volume:	26,190
Percent Daytime Traffic:	83
Percent Nighttime Traffic:	17
Percent Medium Trucks (2 axle):	2
Percent Heavy Trucks (3+ axle):	1
Assumed Vehicle Speed (mph):	35
Intervening Ground Type (hard/soft):	**Soft**

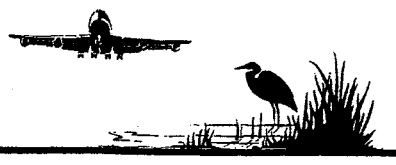
Traffic Noise Levels:

				L_{dn}, dB			
Location:	Description	Distance	Offset (dB)	Autos	Medium Trucks	Heavy Trucks	Total
1	Nearest Building Facades	130	0	61	54	56	63

Traffic Noise Contours (No Calibration Offset):

L_{dn} Contour, dB	Distance from Centerline, (ft)
75	20
70	44
65	94
60	203

Notes:



Appendix C-3

FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
Noise Prediction Worksheet

Project Information:

Job Number: 2004-201
Project Name: Capital Village
Roadway Name: Disk Drive

Traffic Data:

Year:	2025
Average Daily Traffic Volume:	5,730
Percent Daytime Traffic:	83
Percent Nighttime Traffic:	17
Percent Medium Trucks (2 axle):	1
Percent Heavy Trucks (3+ axle):	1
Assumed Vehicle Speed (mph):	40
Intervening Ground Type (hard/soft):	**Soft**

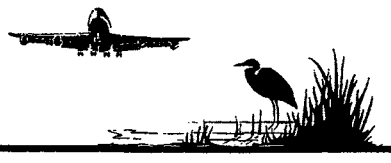
Traffic Noise Levels:

				----------L_{dn}, dB----------			
Location:	**Description**	**Distance**	**Offset (dB)**	**Autos**	**Medium Trucks**	**Heavy Trucks**	**Total**
1	Nearest Building Facades	55	0	62	51	56	63
2	Park B	290	-10	41	30	35	42

Traffic Noise Contours (No Calibration Offset):

L_{dn} Contour, dB	Distance from Centerline, (ft)
75	9
70	19
65	41
60	88

Notes:



Appendix C-4

FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
Noise Prediction Worksheet

Project Information:

Job Number: 2004-201
Project Name: Capital Village
Roadway Name: Prospect Park Drive, S. of International Drive

Traffic Data:

Year:	2025
Average Daily Traffic Volume:	3,950
Percent Daytime Traffic:	83
Percent Nighttime Traffic:	17
Percent Medium Trucks (2 axle):	2
Percent Heavy Trucks (3+ axle):	1
Assumed Vehicle Speed (mph):	40
Intervening Ground Type (hard/soft):	**Soft**

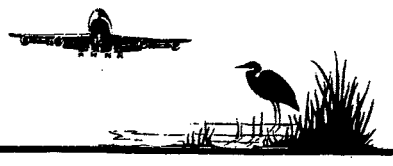
Traffic Noise Levels:

				L_{dn}, dB			
Location:	**Description**	**Distance**	**Offset (dB)**	**Autos**	**Medium Trucks**	**Heavy Trucks**	**Total**
1	Nearest Buiulding Facades	75	0	58	50	52	60

Traffic Noise Contours (No Calibration Offset):

L_{dn} Contour, dB	Distance from Centerline, (ft)
75	7
70	15
65	33
60	71

Notes:



Appendix C-5

FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
Noise Prediction Worksheet

Project Information:

Job Number: 2004-201
Project Name: Capital Village
Roadway Name: Prospect Park Drive, N. of International Drive

Traffic Data:

Year:	2025
Average Daily Traffic Volume:	5,340
Percent Daytime Traffic:	83
Percent Nighttime Traffic:	17
Percent Medium Trucks (2 axle):	2
Percent Heavy Trucks (3+ axle):	1
Assumed Vehicle Speed (mph):	35
Intervening Ground Type (hard/soft):	**Soft**

Traffic Noise Levels:

				L_{dn}, dB			
Location:	Description	Distance	Offset (dB)	Autos	Medium Trucks	Heavy Trucks	Total
1	Nearest Building Facades	75	0	58	51	53	60

Traffic Noise Contours (No Calibration Offset):

L_{dn} Contour, dB	Distance from Centerline, (ft)
75	7
70	15
65	33
60	70

Notes:

Appendix D

Barrier Insertion Loss Calculation

Project Information:

Job Number: 2004-201
Project Name: Capital Village Project
Location(s): Residential Adjaccent to Commercial

Noise Level Data:

Source Description: Truck Passby
Source Noise Level, dBA: 72
Source Frequency (Hz): 550
Source Height (ft): 8

Site Geometry:

Receiver Description: Nearest Residential Property Line
Centerline to Barrier Distance (C_1): 65
Barrier to Receiver Distance (C_2): 95

Pad/Ground Elevation at Receiver: 0
Receiver Elevation[1]: 5
Base of Barrier Elevation: 0
Starting Barrier Height 6

Barrier Effectiveness:

Top of Barrier Elevation (ft)	Barrier Height (ft)	Insertion Loss, dB	Noise Level, dB	Barrier Breaks Line of Site to Source?
6	6	-4.9	67.0	No
7	7	-5.0	66.9	Yes
8	8	-5.1	66.8	Yes
9	9	-5.6	66.3	Yes
10	10	-6.2	65.7	Yes
11	11	-6.9	65.0	Yes
12	12	-7.7	64.2	Yes
13	13	-8.4	63.5	Yes
14	14	-9.1	62.8	Yes
15	15	-9.8	62.1	Yes
16	16	-10.3	61.6	Yes

Notes: 1.Standard receiver elevation is five feet above grade/pad elevations at the receiver location(s)

Appendix E-1

Barrier Insertion Loss Calculation

Project Information:

Job Number: 2004-201
Project Name: Capital Village Project
Location(s): Retail Shops

Noise Level Data:

Source Description: HVAC
Source Noise Level, dBA: 49
Source Frequency (Hz): 550
Source Height (ft): 19

Site Geometry:

Receiver Description: Nearest Backyard
Source to Barrier Distance (C_1): 15
Barrier to Receiver Distance (C_2): 100

Pad/Ground Elevation at Receiver: 0
Receiver Elevation[1]: 5
Base of Barrier Elevation: 15
Starting Barrier Height 0

Barrier Effectiveness:

Top of Barrier Elevation (ft)	Barrier Height (ft)	Insertion Loss, dB	Noise Level, dB	Barrier Breaks Line of Site to Source?
15	0	-2.1	47.3	No
16	1	-4.2	45.2	No
17	2	-4.9	44.5	No
18	3	-5.2	44.2	Yes
19	4	-6.2	43.2	Yes
20	5	-7.4	42.0	Yes
21	6	-8.7	40.7	Yes
22	7	-9.8	39.6	Yes
23	8	-10.7	38.7	Yes
24	9	-11.7	37.7	Yes
25	10	-12.6	36.8	Yes

Notes: 1.Standard receiver elevation is five feet above grade/pad elevations at the receiver location(s)

Appendix E-2

Barrier Insertion Loss Calculation

Project Information:

Job Number: 2004-201
Project Name: Capital Village Project
Location(s): Main Anchor

Noise Level Data:

Source Description: HVAC
Source Noise Level, dBA: 52
Source Frequency (Hz): 550
Source Height (ft): 19

Site Geometry:

Receiver Description: Nearest Backyard
Source to Barrier Distance (C_1): 25
Barrier to Receiver Distance (C_2): 295

Pad/Ground Elevation at Receiver: 0
Receiver Elevation[1]: 5
Base of Barrier Elevation: 15
Starting Barrier Height 0

Barrier Effectiveness:

Top of Barrier Elevation (ft)	Barrier Height (ft)	Insertion Loss, dB	Noise Level, dB	Barrier Breaks Line of Site to Source?
15	0	-2.1	49.9	No
16	1	-3.9	48.1	No
17	2	-4.8	47.2	No
18	3	-5.0	47.0	Yes
19	4	-5.2	46.8	Yes
20	5	-5.9	46.1	Yes
21	6	-6.8	45.2	Yes
22	7	-7.7	44.3	Yes
23	8	-8.7	43.3	Yes
24	9	-9.6	42.4	Yes
25	10	-10.3	41.7	Yes

Notes: 1.Standard receiver elevation is five feet above grade/pad elevations at the receiver location(s)

Appendix E-3

Barrier Insertion Loss Calculation

Project Information:

Job Number: 2004-201
Project Name: Capital Village Project
Location(s): CMU A

Noise Level Data:

Source Description: HVAC
Source Noise Level, dBA: 50
Source Frequency (Hz): 550
Source Height (ft): 19

Site Geometry:

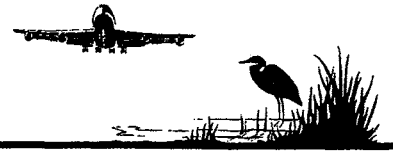
Receiver Description: Nearest Backyard
Source to Barrier Distance (C_1): 30
Barrier to Receiver Distance (C_2): 220

Pad/Ground Elevation at Receiver: 0
Receiver Elevation[1]: 5
Base of Barrier Elevation: 15
Starting Barrier Height 0

Barrier Effectiveness:

Top of Barrier Elevation (ft)	Barrier Height (ft)	Insertion Loss, dB	Noise Level, dB	Barrier Breaks Line of Site to Source?
15	0	-3.6	46.4	No
16	1	-4.5	45.5	No
17	2	-4.9	45.1	No
18	3	-5.0	45.0	Yes
19	4	-5.5	44.5	Yes
20	5	-6.2	43.8	Yes
21	6	-7.1	42.9	Yes
22	7	-8.0	42.0	Yes
23	8	-8.9	41.1	Yes
24	9	-9.7	40.3	Yes
25	10	-10.3	39.7	Yes

Notes: 1.Standard receiver elevation is five feet above grade/pad elevations at the receiver location(s)



APPENDIX D
TRAFFIC IMPACT ANALYSIS

MRO ENGINEERS

Final
Traffic Impact Analysis

Capital Village
Rancho Cordova, California

Prepared For
Beazer Homes
Northern California

January 28, 2005

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Technical Appendices (Bound Separately)

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INTRODUCTION

This report describes a traffic impact analysis for the proposed "Capital Village" project in Rancho Cordova, California. As directed by City of Rancho Cordova staff, this study addresses operating conditions at the key intersections in the vicinity of the proposed project site, as well as the U.S. Highway 50 freeway mainline and the freeway ramps at three nearby interchanges. The analysis also evaluates issues relating to bicycle, pedestrian, and transit activity.

The traffic impact analysis focused on the AM and PM peak hours for existing and cumulative conditions (representing the level of development anticipated in the Sacramento region in the year 2025). For both time periods, analyses were performed both with and without buildout of the proposed Capital Village land uses.

This report presents the analysis procedures as well as the findings and recommendations resulting from the analysis.

Project Description

According to information provided by the project proponent, Beazer Homes Northern California, the proposed Capital Village project would include the following land uses on a 117-acre site:

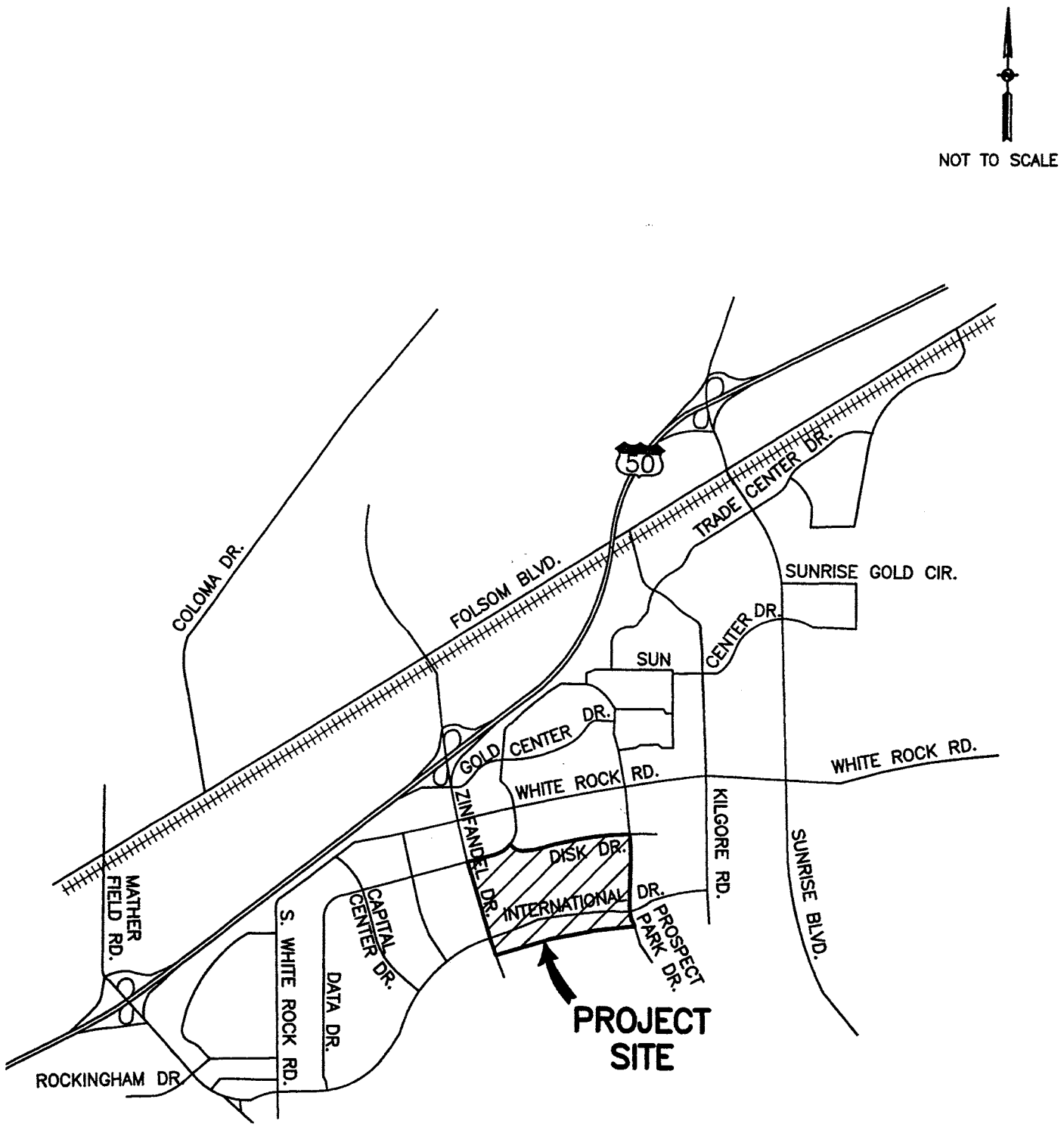
- Single-Family Detached Residential – 571 dwelling units (DU);
- Multi-Family Residential – 265 DU (including 43 DU in "live/retail" units);
- Retail Center – 259,690 square feet (SF), including 24,800 SF associated with the "live/retail" units;
- Restaurant – 8,000 SF; and
- Parks – 7.7 acres.

As shown on Figure 1, the site is bounded by Zinfandel Drive on the west, Data and Disk Drives on the north, and Prospect Park Drive on the east. To the south, the project site extends beyond International Drive, which will serve as an important access facility for project-generated traffic.

Study Intersections

Based on input from City of Rancho Cordova staff, the following intersections were identified for inclusion in this analysis:

1. Mather Field Road/Folsom Boulevard;
2. Mather Field Road/U.S. Highway 50 Westbound Off-ramp;
3. Mather Field Road/U.S. Highway 50 Eastbound Off-ramp;
4. Mather Field Road/Rockingham Drive ;
5. Mather Field Road/International Drive;
6. White Rock Road/International Drive;
7. Zinfandel Drive/Folsom Boulevard;
8. Zinfandel Drive/U.S. Highway 50 Westbound Off-ramp;



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PROJECT LOCATION

FIGURE 1

9. Zinfandel Drive/U.S. Highway 50 Eastbound Off-ramp;
10. Zinfandel Drive/White Rock Road;
11. Zinfandel Drive/Data Drive;
12. Zinfandel Drive/International Drive;
13. Prospect Park Drive (West)/Data Drive/White Rock Road;
14. Data Drive/Disk Drive;
15. Prospect Park Drive (East)/White Rock Road;
16. Prospect Park Drive/Disk Drive;
17. Prospect Park Drive/International Drive;
18. Kilgore Road/White Rock Road;
19. Kilgore Road/International Drive;
20. Sunrise Boulevard/U.S. Highway 50 Westbound Off-ramp;
21. Sunrise Boulevard/U.S. Highway 50 Eastbound Off-ramp;
22. Sunrise Boulevard/Folsom Boulevard;
23. Sunrise Boulevard/Trade Center Drive;
24. Sunrise Boulevard/Sun Center Drive/Sunrise Gold Circle;
25. Sunrise Boulevard/White Rock Road; and
26. Sunrise Boulevard/Douglas Road.

In addition, the U.S. Highway 50 freeway mainline was analyzed, as were the freeway ramp junctions at the Sunrise Boulevard, Zinfandel Drive, and Mather Field Road interchanges.

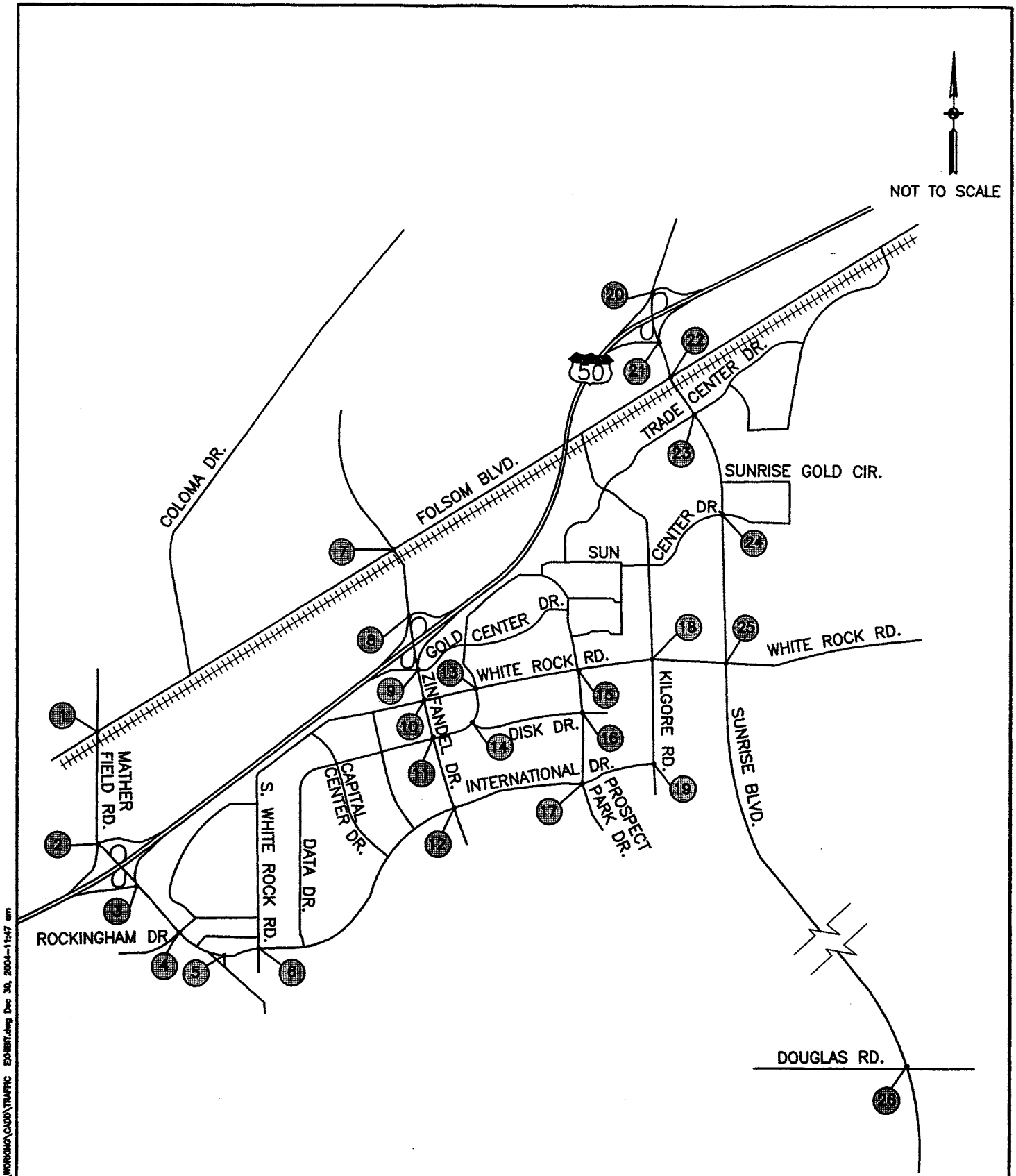
Figure 2 illustrates the locations of these study intersections within the study area.

Intersection Analysis Methodology

Intersection operations are typically described in terms of level of service (LOS), which is reported on a scale from LOS A (representing free-flow conditions) to LOS F (which represents substantial congestion and delay). The specific approaches to determining the intersection levels of service for signalized and unsignalized locations are described below.

Signalized Intersections

The level of service designations for signalized intersections are based on quantitative calculations of volume/capacity (V/C) ratios at the study locations. As directed by City staff, the specific approach to estimating V/C ratios was based on procedures documented in *Interim Materials on Highway Capacity* (Transportation Research Board, Transportation Research Circular Number 212, January 1980), which is commonly referred to as simply "Circular 212."



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STUDY INTERSECTIONS

FIGURE 2

N:\2004\20422 Capital Village Traffic - Bezzar\WORKING\CADD\TRAFFIC EXHIBIT.dwg Dec 30, 2004-11:47 am

The analyses were performed using the *TRAFFIX* software package. To be consistent with other traffic studies conducted in Rancho Cordova, the analyses incorporated modified intersection capacity values specifically defined for use in Sacramento County, based on field measurements. Those modified intersection capacity values, which vary depending upon the number of signal phases at the intersection, are as follows:

- Two-phase operation: 1,650 vehicles per hour (VPH),
- Three-phase operation: 1,550 VPH, and
- Four or more phase operation: 1,500 VPH.

Further, as is typical of traffic studies conducted in Rancho Cordova, the analysis assumed a "peak hour factor" of 1.00, which represents average hourly conditions. Descriptions of operating conditions and V/C ratio thresholds for signalized intersections are presented in Table 1.

Table 1
Signalized Intersection
Level of Service Definitions[1]

Level of Service	Description	Volume/Capacity (V/C) Ratio
A	Very low delay. Most vehicles do not stop	≤ 0.60
B	Slight delay. Generally good signal progression.	0.61 – 0.70
C	Increased number of stopped vehicles. Fair signal progression.	0.71 – 0.80
D	Noticeable congestion. Large proportion of vehicles stopped.	0.81 – 0.90
E	Operating conditions at or near capacity. Frequent cycle failure.	0.91 – 1.00
F	Oversaturation. Forced or breakdown flow. Extensive queuing.	> 1.00

Note:
[1] Reference: Transportation Research Board, Transportation Research Circular Number 212, *Interim Materials on Highway Capacity*, January 1980.

Unsignalized Intersections

The analysis of the unsignalized intersections was conducted using either the "two-way stop-controlled intersection" method or the "all-way stop-controlled intersection" method documented in the current edition of the *Highway Capacity Manual* (Transportation Research Board, 2000). The two-way stop-control method calculates average control delay for each minor movement, but not for the intersection as a whole, while an overall intersection delay value is provided for all-way stop-controlled intersections. For unsignalized intersections, control delay includes initial deceleration delay, queue move-up time,

stopped delay, and final acceleration delay. The unsignalized intersections were analyzed using the *TRAFFIX* software package, which performs level of service calculations in accordance with the *HCM 2000* procedures. Two-way stop-controlled intersection level of service results are based upon the average control delay per vehicle for the "worst case" minor movement, based on the criteria set forth in Table 2. All-way stop-control levels of service reflect the average control delay for the overall intersection, based on these same thresholds.

Table 2
Unsignalized Intersection
Level of Service Definitions

Level of Service	Description	Average Control Delay (Seconds/Vehicle)
A	Little or no conflicting traffic for minor movements.	≤ 10.0
B	Drivers on minor movements begin to notice absence of available gaps.	10.1 – 15.0
C	Drivers on minor movements begin to experience delays waiting for adequate gaps.	15.1 – 25.0
D	Queuing occurs on minor movements due to a reduction in available gaps.	25.1 – 35.0
E	Extensive minor movement queuing due to insufficient gaps.	35.1 – 50.0
F	Insufficient gaps of adequate size to allow minor movement traffic demand to be accommodated.	> 50.0

Reference: *Highway Capacity Manual* (Transportation Research Board, 2000).

Freeway Analysis Methodology

The analysis of the impacts of the proposed Capital Village project on the U.S. Highway 50 freeway system had two primary components: a freeway mainline analysis and a freeway ramp junction analysis. The procedures employed for each of these analyses are summarized below.

Freeway Mainline Analysis

The freeway mainline analysis addressed the key segments of U.S. Highway 50 in the vicinity of the proposed project. The analysis was conducted in accordance with procedures published in Chapters 13 and 23 of the *Highway Capacity Manual* (Transportation Research Board, 2000) and specifically utilized the *HCS* software package.

Level of service on freeways is defined in terms of density (in passenger cars per mile per lane), which is considered an accurate measure of the ability of vehicles to maneuver, given the proximity of other vehicles. Although drivers often consider speed to be a valid indicator of service quality, research has indicated that speed is nearly constant over a wide range of traffic flow rates. For that reason, speed is

not considered a meaningful indicator of freeway level of service. Table 3 summarizes the level of service criteria for basic freeway segments, as defined in the *Highway Capacity Manual.*

TABLE 3
FREEWAY MAINLINE
LEVEL OF SERVICE DEFINITIONS[1]

Level of Service	Description	Maximum Density (Passenger Cars/Mile/Lane)
A	Free-flow operations, with individual users virtually unaffected by others in the traffic stream.	≤ 11.0
B	Stable flow, with speeds generally at the free-flow level. The presence of others in the traffic stream is only slightly noticeable.	11.1 – 18.0
C	Stable flow with speeds at or near the free-flow level. Individuals become noticeably affected by interactions with others.	18.1 – 26.0
D	High-density but stable flow, with speeds beginning to decline slightly and freedom to maneuver more noticeably limited.	26.1 – 35.0
E	Operating conditions at or near capacity. Virtually no usable gaps exist in traffic, significantly restricting maneuverability.	35.1 – 45.0
F	Represents forced or breakdown flow.	> 45.0

Note:
[1] Reference: Transportation Research Board, *Highway Capacity Manual*, 2000.

Freeway Ramp Junction Analysis

The freeway ramp junction analysis addressed the on- and off-ramps at the U.S. Highway 50 interchanges at Sunrise Boulevard, Zinfandel Drive, and Mather Field Road, as those would be most affected by implementation of the proposed project. The freeway ramp junction analysis employed the year 2000 *Highway Capacity Manual* analysis techniques, as documented in Chapters 13 and 25 of that publication. This analysis consisted of an evaluation of the merge/diverge activity at the ramp-freeway junctions, based on existing and projected traffic volumes and a number of specific factors concerning the individual ramp facilities, again using the *HCS* software package.

Level of service for ramp-freeway junction areas is generally defined in terms of the density of traffic in the "ramp influence area" (although LOS F is defined as occurring when demand exceeds the capacity of the upstream or downstream freeway section or the capacity of an off-ramp). For on-ramps, the influence area is defined as 1,500 feet downstream from the point where the ramp joins the freeway mainline. For off-ramps, that area is defined as the 1,500 feet in advance of the point at which the ramp diverges from the mainline. For both on-ramps and off-ramps, the influence area includes only the two right-most lanes on the freeway mainline, as those lanes are most affected by the maneuvers associated with vehicles entering or exiting the freeway. Table 4 summarizes the criteria used to define ramp-freeway junction levels of service.

TABLE 4 RAMP JUNCTION (MERGE/DIVERGE) LEVEL OF SERVICE DEFINITIONS[1]	
Level of Service	Maximum Density (Passenger Cars/Mile/Lane)
A	≤ 10.0
B	10.1 – 20.0
C	20.1 – 28.0
D	28.1 – 35.0
E	> 35.0
F	Demand exceeds capacity on freeway mainline or off-ramp, as appropriate.
Note: [1] Reference: Transportation Research Board, *Highway Capacity Manual*, 2000.	

Evaluation Criteria

Both the City of Rancho Cordova and Caltrans have established evaluation criteria that apply to the roadway facilities addressed in this study.

The City of Rancho Cordova has established LOS E as the minimum acceptable level of service at intersections within the City.

Also, Caltrans has established operational standards for the roadways under its jurisdiction, which are typically documented in "route concept reports" for those facilities. According to information presented in the *State Route 50 Transportation Concept Report* (Caltrans District 3, April 1998), the minimum acceptable level of service for Highway 50 between State Route 99 and the El Dorado County line is LOS E. This standard applies to the freeway mainline, the ramp junctions, and the freeway terminal intersections (i.e., where the freeway ramps meet the surface street system).

Based on these two sets of evaluation criteria, the proposed Capital Village project would be considered to have a significant impact on transportation system operations if project-generated traffic would:

Surface Street Intersections

- Change the intersection level of service from acceptable levels (i.e., LOS E or better) to LOS F.
- For signalized intersections that already operate at LOS F under "no project" conditions, exacerbate intersection operations through an increase in the V/C ratio of 0.05 or more.
- For unsignalized intersections that already operate at LOS F under "no project" conditions, exacerbate intersection operations through an increase in the delay value of five seconds or more.

Freeway Ramp Terminal Intersections

- Change the intersection level of service from acceptable levels (i.e., LOS E or better) to LOS F.
- For ramp terminal intersections (all of which are signalized) that already operate at LOS F under "no project" conditions, exacerbate intersection operations through an increase in the V/C ratio of 0.05 or more.

Highway 50 Mainline and Ramp Junctions

- Change the Highway 50 freeway mainline level of service from acceptable levels (i.e., LOS E or better) to LOS F.
- Change the Highway 50 ramp junction level of service from acceptable levels (i.e., LOS E or better) to LOS F.

Transit, Bicycle, and Pedestrian Facilities

- Substantially interfere with existing or planned transit, bicycle, or pedestrian facilities in the study area.
- Substantially increase the potential for conflicts between vehicles, pedestrians, and bicyclists.

EXISTING CONDITIONS

This section describes existing traffic operations in the study area.

Key Roadways

A brief description of the key roadways in the study area is provided below.

U.S. Highway 50 is a controlled-access, east-west freeway facility in the vicinity of the project site. It is a major national highway, connecting the Sacramento region to the Atlantic coast area and providing one of the key crossings of the Sierra Nevada Mountains. In the study area, Highway 50 provides four lanes in each direction from west of Bradshaw Road to Sunrise Boulevard. East of Sunrise Boulevard, four lanes are also provided in each direction, one of which is a high-occupancy vehicle (HOV) lane during the critical commute periods in the morning (6:00 – 10:00 AM) and evening (3:00 – 7:00 PM).

Sunrise Boulevard is a major north-south arterial roadway, which connects Grant Line Road to the south with Placer County to the north. It has six lanes in the vicinity of the proposed project. Sunrise Boulevard meets Highway 50 at an interchange with loop on-ramps in the northeast and southwest quadrants and diagonal ramps in all four quadrants. The City of Rancho Cordova has designated this roadway as a six-lane thoroughfare.

White Rock Road runs from International Drive on the west to El Dorado County to the east. Although it is a two-lane collector street between International Drive and Zinfandel Drive, it expands to a six-lane arterial between Zinfandel Drive and Sunrise Boulevard, then returns to a two-lane roadway east of Sunrise Boulevard. The City of Rancho Cordova has identified this road as a six-lane thoroughfare.

Mather Field Road extends from the former Mather Air Force Base to Folsom Boulevard. It has six lanes between International Drive and Highway 50, and four lanes between Highway 50 and Folsom Boulevard. The Highway 50/Mather Field Road interchange is similar to the Sunrise Boulevard facility, with loop on-ramps in the northeast and southwest quadrants and diagonal ramps in all four quadrants.

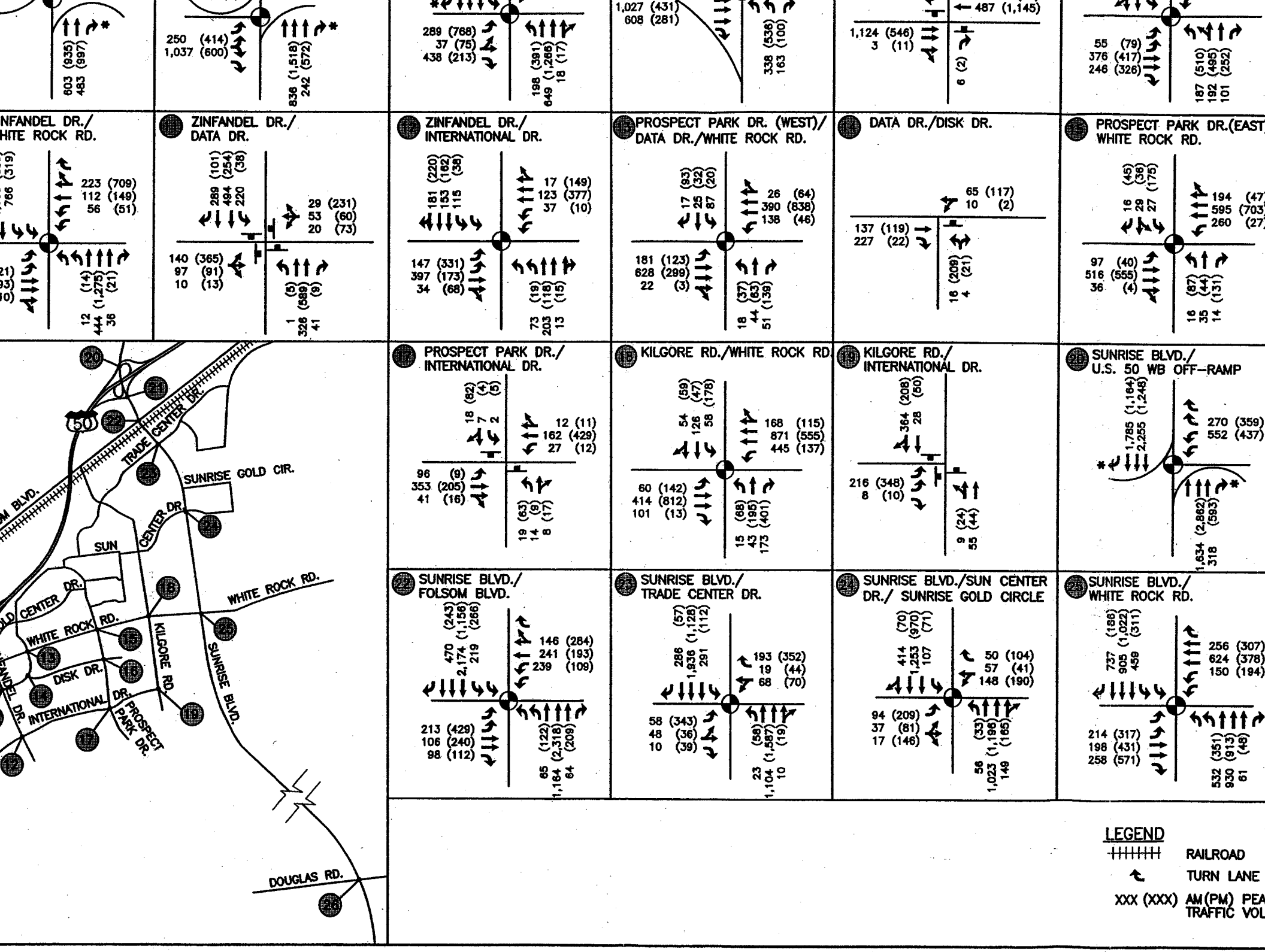
Zinfandel Drive is an arterial roadway, with four lanes from International Drive to Sunrise Boulevard. As at the other interchanges in the study are, the Highway 50/Zinfandel Drive interchange has loop on-ramps in the northeast and southwest quadrants and diagonal ramps in all four quadrants.

International Drive is a four-lane, east-west roadway. It connects Mather Field Road and White Rock Road on the west to Kilgore Road on the east. International Drive runs through the project site, and will provide access to much of the proposed retail and residential development.

Existing Traffic Volumes

AM and PM peak-period turning movement counts were conducted at the study intersections on August 17, 18, and 19, 2004. Freeway mainline and on/off-ramp counts were also performed at that time, during both peak periods. The count period was specifically selected to occur during the Folsom Cordova Unified School District school year.

The peak-hour volumes and existing intersection lane configurations are shown on Figure 3.


NFANDEL DR./
HITE ROCK RD.
ZINFANDEL DR./
DATA DR.
ZINFANDEL DR./
INTERNATIONAL DR.
PROSPECT PARK DR. (WEST)/
DATA DR./WHITE ROCK RD.
DATA DR./DISK DR.
PROSPECT PARK DR.(EAST
WHITE ROCK RD.
PROSPECT PARK DR./
INTERNATIONAL DR.
KILGORE RD./WHITE ROCK RD.
KILGORE RD./
INTERNATIONAL DR.
SUNRISE BLVD./
U.S. 50 WB OFF-RAMP
SUNRISE BLVD./
FOLSOM BLVD.
SUNRISE BLVD./
TRADE CENTER DR.
SUNRISE BLVD./SUN CENTER
DR./ SUNRISE GOLD CIRCLE
SUNRISE BLVD./
WHITE ROCK RD.
SUNRISE GOLD CIR.
TRADE CENTER DR.
SUN CENTER DR.
WHITE ROCK RD.
DISK DR.
INTERNATIONAL DR.
PROSPECT PARK DR.
KILGORE RD.
SUNRISE BLVD.
DOUGLAS RD.
LEGEND
RAILROAD
TURN LANE
XXX (XXX) AM(PM) PEA
TRAFFIC VOL

Existing Intersection Level of Service

Table 5 summarizes the existing AM and PM peak-hour levels of service at each study intersection. Appendix A contains the technical calculation sheets.

AM Peak Hour

All but one of the study intersections operate at acceptable levels of service in the AM peak hour. The exception is the intersection of Zinfandel Drive/U.S. Highway 50 Eastbound Off-ramp (LOS F). The remaining 25 intersections are all at an acceptable LOS E or better.

PM Peak Hour

In the PM peak hour, all of the study intersections meet the level of service standards applicable to this analysis. Two locations (the all-way stop-controlled intersection of Zinfandel Drive/Data Drive and the signalized intersection of Zinfandel Drive/U.S. Highway 50 Eastbound Off-ramp) are at LOS E, which is considered acceptable. The other study intersections all operate at LOS D or better in the PM peak hour.

Table 5
Intersection Level of Service Summary[1]
Existing Conditions

Intersection	Traffic Control	AM Peak Hour V/C[2] or Delay[3]	AM Peak Hour LOS[3]	PM Peak Hour V/C or Delay	PM Peak Hour LOS
1. Mather Field Road/Folsom Boulevard	Signal	0.55	A	0.68	B
2. Mather Field Rd./U.S. Highway 50 WB Off-ramp	Signal	0.53	A	0.48	A
3. Mather Field Road/U.S. Highway 50 EB Off-ramp	Signal	0.72	C	0.59	A
4. Mather Field Road/Rockingham Drive	Signal	0.78	C	0.79	C
5. Mather Field Road/International Drive	Signal	0.44	A	0.48	A
6. White Rock Road/International Drive	STOP Sign	10.8	B	13.9	B
7. Zinfandel Drive/Folsom Boulevard	Signal	0.47	A	0.63	B
8. Zinfandel Drive/U.S. Highway 50 WB Off-ramp	Signal	0.60	A	0.58	A
9. Zinfandel Drive/U.S. Highway 50 EB Off-ramp	Signal	1.17	F	0.94	E
10. Zinfandel Drive/White Rock Road	Signal	0.67	B	0.77	C
11. Zinfandel Drive/Data Drive	All-Way STOP	13.2	B	38.9	E
12. Zinfandel Drive/International Drive	Signal	0.31	A	0.39	A
13. Prospect Park Dr./Data Dr./White Rock Rd.	Signal	0.33	A	0.44	A
14. Data Drive/Disk Drive	STOP Sign	9.7	A	11.7	B
15. Prospect Park Drive (East)/White Rock Road	Signal	0.34	A	0.36	A
16. Prospect Park Drive/Disk Drive	STOP Sign	10.2	B	10.9	B
17. Prospect Park Drive/International Drive	STOP Sign	18.1	C	15.0	B
18. Kilgore Road/White Rock Road	Signal	0.59	A	0.75	C
19. Kilgore Road/International Drive	All-Way STOP	10.3	B	9.9	A
20. Sunrise Blvd./U.S. Highway 50 WB Off-ramp	Signal	0.70	B	0.80	C
21. Sunrise Boulevard/U.S. Highway 50 EB Off-ramp	Signal	0.75	C	0.68	B
22. Sunrise Boulevard/Folsom Boulevard	Signal	0.67	B	0.88	D
23. Sunrise Boulevard/Trade Center Drive	Signal	0.61	B	0.80	C
24. Sunrise Blvd./Sun Center Dr./Sunrise Gold Circle	Signal	0.60	A	0.66	B
25. Sunrise Boulevard/White Rock Road	Signal	0.94	E	0.81	D
26. Sunrise Boulevard/Douglas Road	Signal	0.71	C	0.75	C

Notes:
[1] Signalized Reference: Transportation Research Board, Transportation Research Circular Number 212, *Interim Materials on Highway Capacity*, 2000.
Unsignalized Reference: Transportation Research Board, *Highway Capacity Manual*, 2000.
[2] Volume/capacity ratio.
[3] Average control delay (seconds per vehicle).
[4] Level of service; Shaded cell indicates unacceptable level of service.

Existing Freeway Mainline Level of Service

The results of the analysis of U.S. Highway 50 mainline operations in the AM and PM peak hours under existing conditions are summarized in Table 6. The level of service worksheets are presented in Appendix A.

AM Peak Hour

The Highway 50 freeway mainline operates at LOS C or D in the eastbound direction in the AM peak hour, with the two western segments at LOS D and the eastern segments at LOS C. In the westbound direction, the analysis reveals LOS D or E on the study segments. Thus, the freeway mainline operates at acceptable levels of service under existing conditions.

PM Peak Hour

In the PM peak hour, the eastbound segments of Highway 50 are at LOS D or E, with the lower levels of service found for the western segments. The westbound freeway mainline is at LOS C or D, with operations worsening as motorists travel west. Again, the freeway mainline operates at acceptable levels of service in this time period.

TABLE 6
FREEWAY MAINLINE LEVEL OF SERVICE SUMMARY[1]
EXISTING CONDITIONS

	AM Peak Hour				PM Peak Hour			
	Eastbound		Westbound		Eastbound		Westbound	
U.S. Highway 50 Segment	Density[2]	LOS[3]	Density	LOS	Density	LOS	Density	LOS
West of Mather Field Road	30.6	D	35.2	E	35.9	E	33.1	D
Mather Field Rd. to Zinfandel Dr.	26.8	D	34.7	D	35.0	E	27.6	D
Zinfandel Dr. to Sunrise Blvd.	18.4	C	38.3	E	30.7	D	20.8	C
East of Sunrise Boulevard	18.9	C	33.5	D	34.0	D	19.5	C

Notes:
1 Reference: Transportation Research Board, *Highway Capacity Manual*, 2000.
2 In passenger cars per mile per lane.
3 Level of service.

Existing Freeway Ramp Junction Level of Service

Table 7 presents the results of the analysis of the freeway ramp junctions for existing conditions in the AM and PM peak hours. The technical calculation worksheets are presented in Appendix A.

Table 7
Freeway Ramp Junction Level of Service Summary[1]
Existing Conditions

Freeway Ramp		AM Peak Hour		PM Peak Hour	
		Density[2]	LOS[3]	Density	LOS
Mather Field Road Interchange					
Westbound On-ramp	NB Loop Ramp	24.5	C	23.3	C
	SB Diagonal Ramp	25.8	C	25.7	C
Westbound Off-ramp		35.9	E	30.0	D
Eastbound On-ramp	NB Diagonal Ramp	22.4	C	24.3	C
	SB Loop Ramp	21.7	C	23.8	C
Eastbound Off-ramp		35.7	E	36.3	E
Zinfandel Drive Interchange					
Westbound On-ramp	NB Loop Ramp	24.9	C	21.9	C
	SB Diagonal Ramp	26.1	C	23.1	C
Westbound Off-ramp		38.9	F	23.5	C
Eastbound On-ramp	NB Diagonal Ramp	16.5	B	23.7	C
	SB Loop Ramp	15.7	B	22.9	C
Eastbound Off-ramp		24.2	C	16.4	B
Sunrise Boulevard Interchange					
Westbound On-ramp[4]		23.7	C	20.1	C
Westbound Off-ramp		31.5	D	20.4	C
Eastbound On-ramp[4]		16.5	B	22.7	C
Eastbound Off-ramp		12.0	B	20.9	C

Notes:
1 Reference: Transportation Research Board, *Highway Capacity Manual*, 2000.
2 In passenger cars per mile per lane.
3 Level of service; Shaded cells indicate unacceptable level of service.
4 Directional on-ramps join prior to freeway merge point.

AM Peak Hour

All of the ramps at the Mather Field Road interchange operate at acceptable levels of service, although two locations operate at LOS E (the eastbound and westbound off-ramps). The other ramps are all at LOS C.

At the Zinfandel Drive interchange, LOS F exists at the westbound off-ramp, primarily due to the heavy volume of traffic on the freeway mainline and the estimated number of vehicles in the two right-hand freeway lanes in the vicinity of the off-ramp. The remaining Zinfandel Drive ramps are at LOS B or C.

The Sunrise Boulevard interchange also operates at acceptable levels of service – LOS D or better at all of the ramps.

PM Peak Hour

The eastbound off-ramp again operates at LOS E at the Mather Field Road interchange, while the remaining ramps are at LOS C or D. LOS B or C operations prevail at the Zinfandel Dive interchange in the PM peak hour, and the Sunrise Boulevard ramps are all at LOS C.

Existing Transit Service

The transit demand generated by the proposed Capital Village project will be served by Sacramento Regional Transit (RT), primarily with bus service (some of which connects to the existing light rail service running along Folsom Boulevard). According to information supplied by RT, one bus line directly serves the proposed project site, and one additional line passes nearby. These routes are briefly described below:

- Route 74/International – This bus route connects the Sunrise light rail station with the Mather Field/Mills light rail station, operating on a somewhat circuitous route through the business parks in the vicinity of the proposed project. It adjoins the proposed project site's western boundary, along Zinfandel Drive and Data Drive. Route 74 provides 60-minute headways on weekdays and Saturdays only; no Sunday or holiday service is provided. (Saturday service was added September 5, 2004; prior to that time, Route 74 provided weekday service only.) Weekday service runs from approximately 6:00 AM until about 10:00 PM. Saturday service operates hourly from about 7:00 AM until about 7:00 PM.
- Route 73/White Rock – This bus route also connects the Sunrise light rail station with the Mather Field/Mills light rail station, primarily by way of Mather Field Road, Rockingham Drive, White Rock Road, and Sunrise Boulevard. Route 73 does not adjoin the project site, but runs a short distance to the north along White Rock Road. This route runs Monday through Saturday, providing 60-minute service throughout those days. No Sunday or holiday service is available. On weekdays, service is provided from about 6:15 AM until almost 10:00 PM, and on Saturdays from about 8:00 AM until almost 6:30 PM.

RT also operates light rail service extending from downtown Sacramento to Sunrise Boulevard. That line includes the "Mather Field/Mills" station and the "Sunrise" station served by the two bus lines described above. The Mather Field/Mills station has parking for almost 300 vehicles, while the Sunrise station has 487 parking spaces. Service is generally provided from about 5:00 AM until midnight. Weekday service

is provided every 15 minutes throughout the day, changing to 30-minute headways in the evening (after about 7:30 PM). On Saturdays and Sundays, service is also provided on 15 - 30 minute headways.

An easterly extension of the light rail line to the City of Folsom is currently under construction. That project is expected to be completed in late 2005.

Existing Bicycle Facilities

Bicycle facilities are relatively limited in the vicinity of the project site. On-street bike lanes are present along Folsom Boulevard, portions of Mather Field Road, and Zinfandel Drive north of Folsom Boulevard. Bike lanes generally do not exist on the streets in the immediate vicinity of the proposed project site, including Zinfandel Drive, International Drive, Data Drive, Disk Drive, and Prospect Park Drive. In some locations, however, the streets are wider than is currently required by the existing traffic demand, thereby allowing safe bicycle travel along those facilities.

The City of Rancho Cordova has not yet adopted a bikeway master plan to guide the development of such facilities. Pending the completion of such a plan, *The 2010 Sacramento City/County Bikeway Master Plan* (Adopted by Sacramento County on November 23, 1993 and the City of Sacramento on April 1, 1995) serves as the primary planning document for bikeway development within the City. In the vicinity of the proposed Capital Village project, the *Bikeway Master Plan* identifies proposed on-street (Class II) bike lanes along the following roadways:

- Sunrise Boulevard (from Coloma Road south to Grant Line Road),
- Zinfandel Drive (south from Folsom Boulevard to Kiefer Boulevard), and
- White Rock Road (from west of Zinfandel Drive to Grant Line Road).

In addition, an off-street (Class I) bike trail exists along the alignment of the Folsom South Canal, which generally runs parallel to and just west of Sunrise Boulevard near the project site.

With the exception of Zinfandel Drive, no bicycle facilities are planned on any of the streets that will provide direct vehicular access to the proposed project (i.e., International Drive, Prospect Park Drive, Data Drive, or Disk Drive).

Existing Pedestrian Facilities

Sidewalks are generally provided along the streets within the study area, and traffic signals typically incorporate pedestrian signal indications aimed at maximizing safety for such individuals as they cross the local streets.

EXISTING + PROJECT TRAFFIC IMPACT ANALYSIS

This section documents the effects of adding the traffic associated with full buildout of the proposed Capital Village project to existing traffic volumes at the study locations. It assumes that no improvements will have been made to any of the study intersections or to the freeway facilities. To evaluate these impacts, the volume of traffic generated by the proposed project was estimated and that traffic was assigned to the adjacent street system. The levels of service at the study locations were then analyzed for the AM and PM peak hours.

Project Description

As described earlier, buildout of the proposed Capital Village project would result in the following levels of development on the 117-acre site:

- Single-Family Detached Residential – 571 dwelling units (DU);
- Multi-Family Residential – 265 DU;
- Retail Center – 259,690 square feet (SF);
- Restaurant – 8,000 SF; and
- Parks – 7.7 acres.

Trip Generation

The AM and PM peak-hour trip generation estimates associated with the proposed Capital Village land uses were estimated using information presented in *Trip Generation* (Institute of Transportation Engineers, Seventh Edition, 2003).

The estimates for the single-family residential component of the proposed project were developed using information applicable to "single-family detached" dwelling units (i.e., typical single-family homes). However, this project is to be constructed at a relatively high density. Further, many of the residential units will be smaller than the newly-constructed residential units typically offered in the Sacramento region. As such, the project is expected to appeal to buyers with smaller household sizes (e.g., single individuals, "empty nesters," or young couples who may be first-time buyers). Smaller household sizes typically translate into reduced tripmaking activity, as such households also have fewer drivers and lower vehicle ownership rates. Thus, using the ITE trip rates for typical single-family homes results in a conservatively high estimate of the volume of traffic associated with the proposed project and, in fact, may over-estimate the amount of project-generated traffic. Consequently, a conservative analysis of the proposed project's traffic impacts results.

Table 8 summarizes the resulting trip generation estimates for the proposed project. The proposed project is expected to generate a gross total of almost 940 AM peak hour trips, with 353 inbound and 586 outbound. The PM peak hour trip generation is estimated to be slightly over 2,000 trips, with 1,089 inbound and 918 outbound. Further, about 20,900 daily trips are estimated in connection with the proposed project, evenly split between the inbound and outbound directions.

However, the specific nature of the proposed project's land uses creates the potential for both internal and pass-by trips. These are discussed in detail below.

TABLE 8
TRIP GENERATION ESTIMATE SUMMARY[1]

Land Use	Size	AM Peak Hour			PM Peak Hour			Daily Trips
		In	Out	Total	In	Out	Total	
Single-Family Residential	571 DU	106	325	431	362	213	575	5,460
Multi-Family Residential	265 DU	27	108	135	108	57	165	1,780
Retail	259,690 SF	169	108	277	564	611	1,175	12,630
Restaurant	8,000 SF	48	44	92	53	34	87	1,020
Parks	7.7 Acres	3	1	4	2	3	5	20
	Total	353	586	939	1,089	918	2,007	20,910

Notes:
[1] Reference: Institute of Transportation Engineers, *Trip Generation*, Seventh Edition, 2003.

Internal Trips

The multi-use nature of the proposed project, in which residential land uses are located adjacent to and near retail land uses, creates the potential for a certain amount of internal travel. Internal trips are those that occur entirely within the site (either as vehicular trips or, perhaps, as pedestrian or bicycle trips), and result in no additional traffic on the public streets serving the project site. At Capital Village, this opportunity exists on the portion of the project site north of International Drive, where residents will be able to travel to and from the retail center entirely on internal travel-ways. (Trips from the residential areas south of International Drive to and from the retail center are not strictly internal trips, as they must cross International Drive, thereby passing through one or more of the study intersections. As such, they have been treated separately.)

Guidance with respect to the magnitude of such internal travel is provided in the *Trip Generation Handbook* (Institute of Transportation Engineers, Second Edition, June 2004), which presents a detailed procedure for applying internal trip adjustments. Based on information presented in that document, about 11 percent of the PM peak hour retail trips will remain internal to the site, as they will connect to/from the residential uses in the northern portion of the site. An additional 10 percent of the retail trips will represent travel between the retail center and the southern residential areas in the PM peak hour. (As noted above, those trips have been separately assigned to the project access points and study intersections.) Overall, the ITE procedure indicates that about 24 percent of the PM peak hour trips generated by the proposed project will be internal trips.

The ITE *Trip Generation Handbook* does not contain information regarding the likely degree of internal trip capture in the AM peak hour. However, information is presented for the midday peak hour, which generally results in a lower estimate of internal trips, and results in a reasonable estimate of this activity for the AM peak hour. Specifically, about 5 percent of the retail trips are estimated to be internal to the site in the AM peak hour (connecting to the northern residential area), while about 6 percent of the retail trips will connect to the southern residential area in that time period. Applying those factors to the proposed project's trip generation values for the affected retail and residential components indicates that 68 of the 939 total AM peak hour trips will be internal to the project, about 7 percent of the total.

The internal trip totals presented above assume that all of the park-generated traffic will represent internal trips. As shown in Table 8, only a small number of trips are expected to be generated by the park (4 trips in the AM peak hour and 5 trips in the PM peak hour), and it is reasonable to assume that these trips will be made by residents within the project. (However, because of the small magnitude of the park-generated trips and to ensure a conservative analysis of the project's traffic impacts, the internal park-related trips were not deducted from the residential external trips.) On the other hand, all of the restaurant trips are assumed to be external trips.

Pass-By Trips

The trip generation estimate presented in Table 8 represents the gross number of trips resulting from construction of the proposed project. However, a portion of the external trips associated with the retail component of the proposed project will be "pass-by trips." Pass-by trips are defined as trips that are already on the adjacent roadways, with the trip to the project site being an intermediate stop as part of another trip. As defined in the *Trip Generation Handbook* (Institute of Transportation Engineers, Second Edition, June 2004), "Pass-by trips are attracted from traffic passing the site on an adjacent street or roadway that offers direct access to the generator." The classic example of a pass-by trip is stopping for a gallon of milk on the way home from work. In that example, the trip from work to home represents the primary trip purpose and the shopping trip is the pass-by trip.

Thus, the external retail trip generation estimates can be broken down as either "primary" trips or "pass-by" trips. Based on information presented in the *Trip Generation Handbook*, the average pass-by trip rate for a retail center of the size proposed here is approximately 30 - 35 percent in the PM peak period (i.e., 30 - 35 percent of the trips would be pass-by trips and 65 - 70 percent would be primary trips.). To be conservative, a PM peak hour pass-by trip adjustment of 30 percent has been applied to the retail land use.

Review of the pass-by trip data presented in the *Trip Generation Handbook* reveals that the available pass-by trip data does not cover the AM peak period, nor are daily figures presented. However, unpublished data collected for a major home improvement retailer in southern California indicates that the pass-by trip percentage for the AM peak hour is approximately 60 percent of the PM peak hour figure. Further, the daily pass-by trip percentage is slightly lower than the AM peak hour figure. Based on this data, a conservative pass-by trip rate of 15 percent was assumed for the retail component of the proposed project in the AM peak hour.

It is important to recognize that pass-by trips do not represent a reduction in the total volume of traffic associated with a particular project. In fact, the entire volume of external traffic generated by the project will enter and exit the site in the peak hours. The pass-by trip adjustment instead reflects the fact that some portion of those trips will be drawn from the existing traffic volume on adjacent roadways, and also that pass-by trips might have a different directional distribution than the primary trips. Furthermore, the pass-by trip adjustment is applied only to external trips, after application of the internal trip adjustment.

Table 9 presents a detailed breakdown of the trip generation estimate for the proposed project, with the external retail trips designated as either primary or pass-by trips. This table also illustrates the application of the internal trip adjustment to the proposed project's trip generation estimate, as described above.

Table 9
Detailed Trip Generation Estimate[1]

Land Use	Trip Type		AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
North Residential 467 DU	Internal[2]		8	8	16	73	51	124
	External[3]		64	229	293	182	95	277
	Subtotal		72	237	309	255	146	401
South Residential 369 DU	Intra-project[4]		8	8	16	67	51	118
	External		53	188	241	148	73	221
	Subtotal		61	196	257	215	124	339
Residential Subtotal 836 DU	Internal[5]		16	16	32	140	102	242
	External		117	417	534	330	168	498
	Subtotal		133	433	566	470	270	740
Retail 259,690 SF	Internal[5]		16	16	32	102	140	242
	External	Primary[6]	130	78	208	323	330	653
		Pass-By[7]	23	14	37	139	141	280
		Subtotal	153	92	245	462	471	933
	Retail Subtotal		169	108	277	564	611	1,175
Restaurant 8,000 SF	External/Primary		48	44	92	53	34	87
Parks 7.7 Acres	Internal		3	1	4	2	3	5
PROJECT TOTAL	Internal[5]		35	33	68	244	245	489
	External	Primary	295	539	834	706	532	1,238
		Pass-By	23	14	37	139	141	280
		Subtotal	318	553	871	845	673	1,518
	GRAND TOTAL		353	586	939	1,089	918	2,007

Notes:

1 References: Institute of Transportation Engineers, *Trip Generation*, Seventh Edition, 2003 and Institute of Transportation Engineers, *Trip Generation Handbook*, Second Edition, June 2004.

2 Trips made entirely within the project site, without using the public street system.

3 Trips that approach and depart the project site using the public street system.

4 Trips between the retail center and the residential units south of International Drive.

5 Includes the intra-project trips between the retail center and the southern residential area.

6 The proposed project is the main reason for making the trip.

7 The retail portion of the project is an intermediate stop as part of a trip having a different primary trip purpose. Assumed to be 15 percent of retail trips in the AM peak hour and 30 percent of retail trips in the PM peak hour. Pass-by adjustment applied only to external component of retail-generated trips.

Trip Distribution

The directional distribution of the project-generated traffic at the study locations was based primarily on existing traffic patterns in the vicinity of the project site. Figure 4 illustrates the anticipated geographic distribution of project-generated trips.

Project Traffic Assignment

The AM and PM peak-hour traffic volumes generated by the proposed project were added to the existing traffic volumes, with the result being the "Existing + Project" scenario, as shown on Figure 5, which also illustrates the study intersection lane configurations.

Intersection Level of Service

Table 10 presents the AM and PM peak hour levels of service at each study intersection under Existing + Project conditions. Appendix B contains the technical calculation worksheets.

AM Peak Hour

In the AM peak hour, addition of the project-generated traffic results in slight increases in V/C ratio or delay at all but two of the study intersections. Changes in level of service are projected at three of the study intersections, but in each of those cases the intersection will continue to operate at an acceptable level of service. Overall, 25 of the 26 study intersections are projected to operate at acceptable levels of service under Existing + Project Conditions.

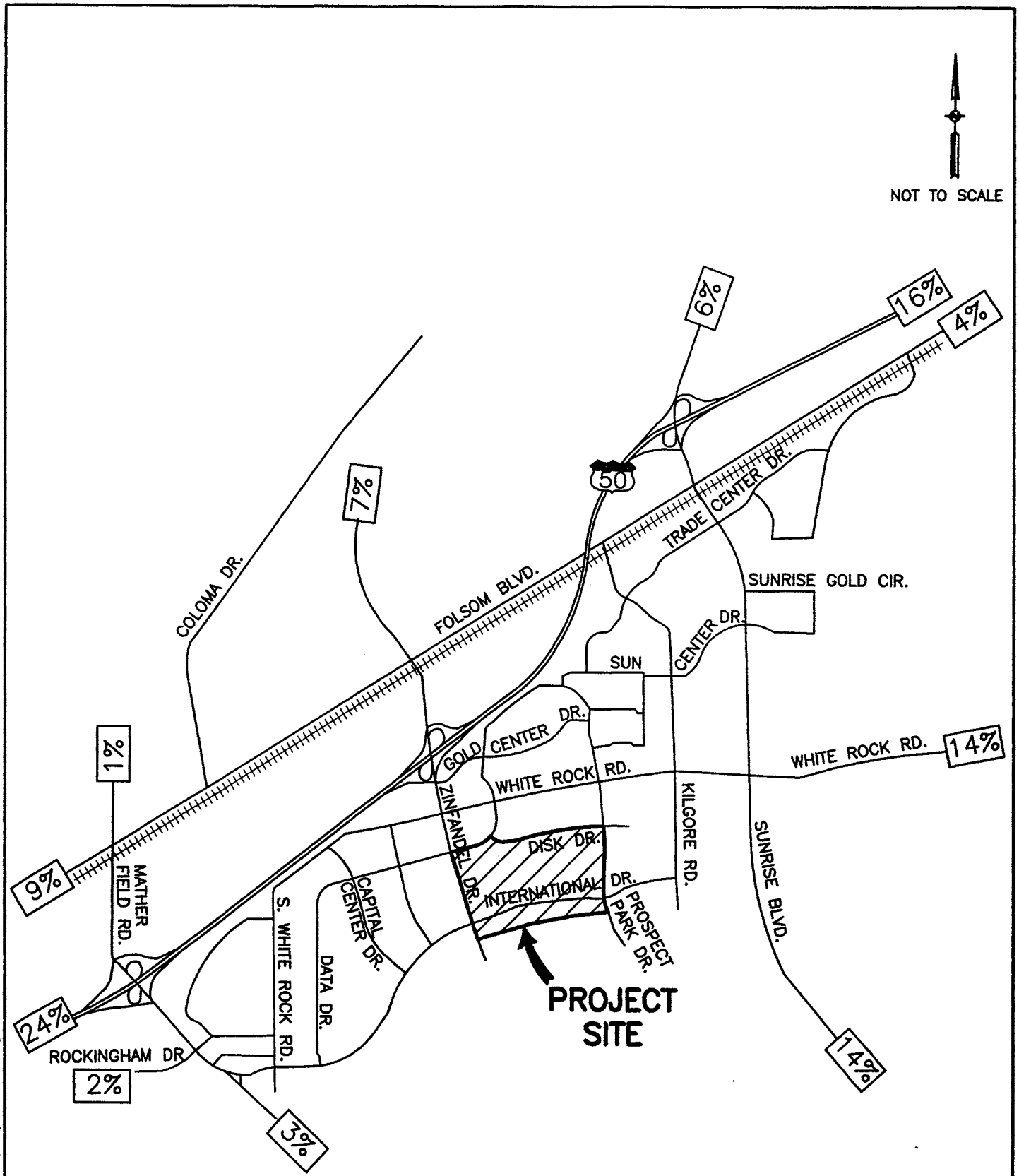
The intersection of Zinfandel Drive/U.S. Highway 50 Eastbound Off-ramp will operate at an unacceptable LOS F, as it does under Existing Conditions. The project-related increment in the intersection's V/C ratio is 0.03, which falls below the threshold for a significant impact at such locations.

Therefore, no significant impacts are projected in the AM peak hour under Existing + Project Conditions.

PM Peak Hour

Increases in V/C ratio and intersection delay are also projected in the PM peak hour. One of the study intersections is expected to operate at an unacceptable level of service, while the remaining 25 locations will meet the standards adopted by the pertinent jurisdiction.

The estimated average delay value at the "all-way stop-controlled" intersection of Zinfandel Drive/Data Drive will increase from 38.9 seconds per vehicle (LOS E) under Existing Conditions to 66.5 seconds per vehicle (LOS F) when project traffic is added. This represents a ***significant impact.***



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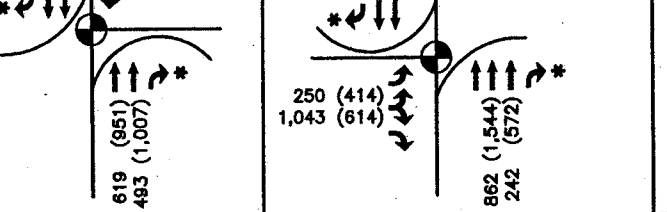
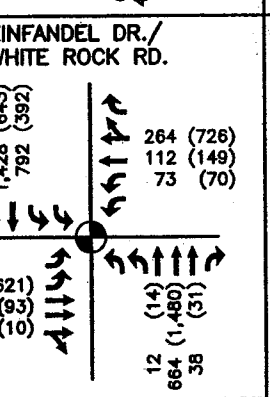
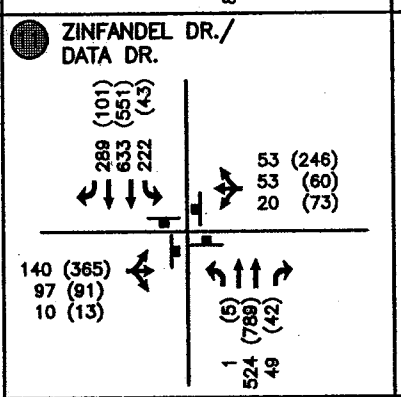
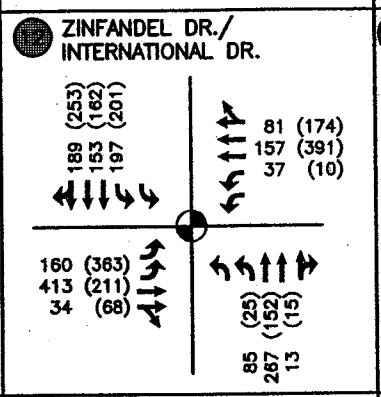
PROJECT TRIP DISTRIBUTION
EXISTING + PROJECT CONDITIONS

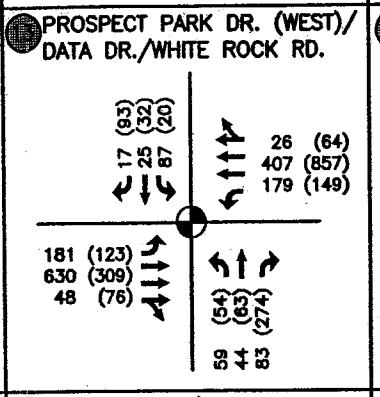
FIGURE 4

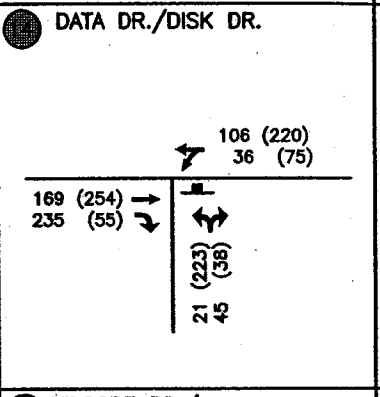


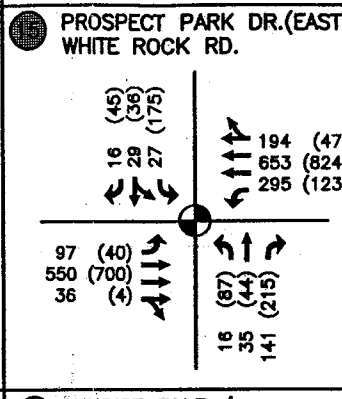


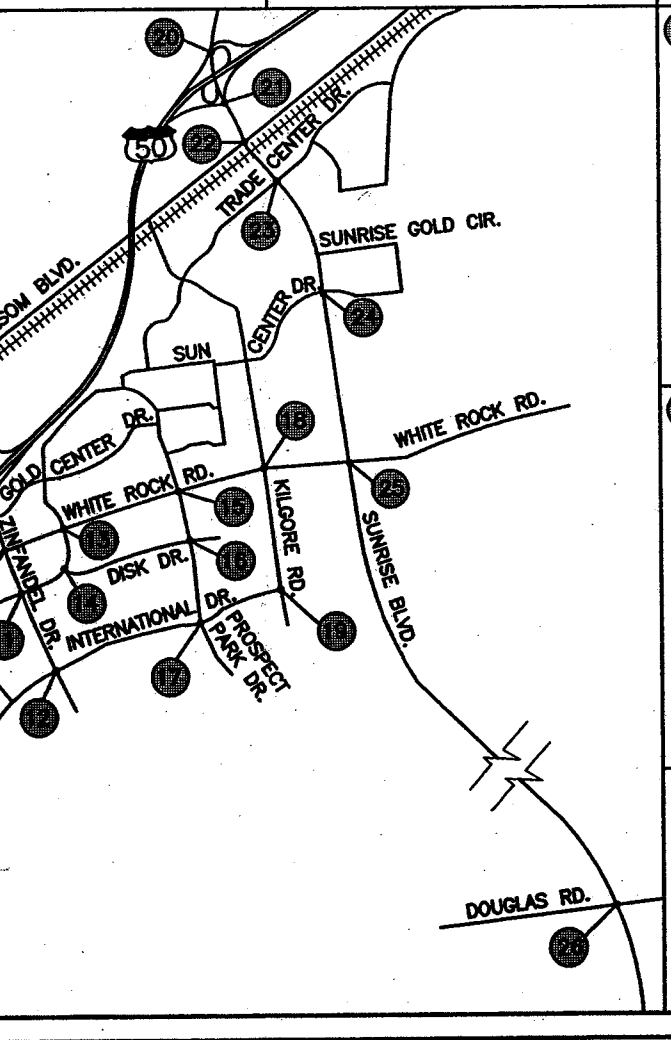


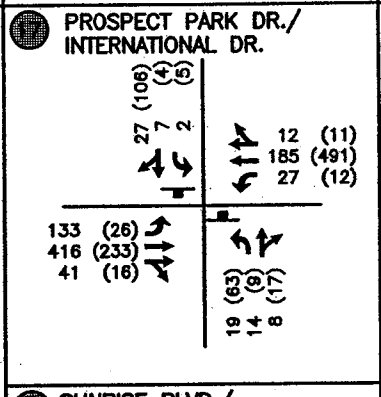


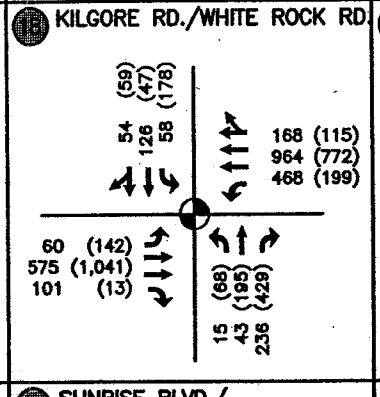


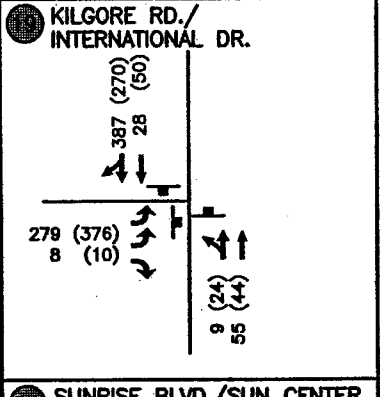


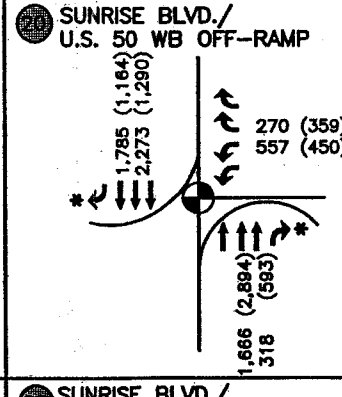


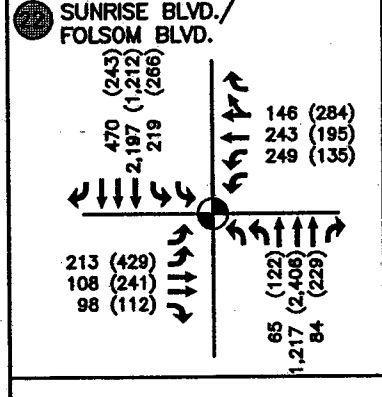


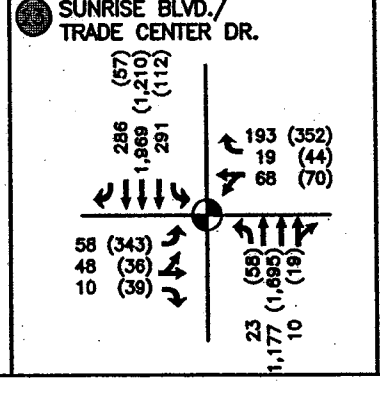


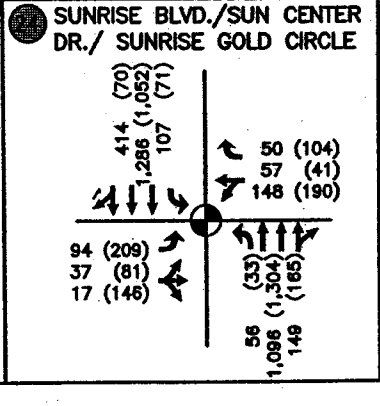


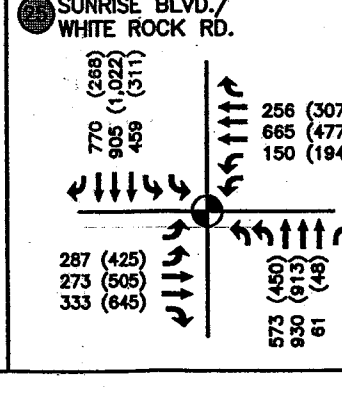












LEGEND

RAILROAD

TURN LANE

XXX (XXX) AM (PM) PE
TRAFFIC VO

TABLE 10
INTERSECTION LEVEL OF SERVICE SUMMARY
EXISTING + PROJECT CONDITIONS

Intersection	Traffic Control	AM Peak Hour				PM Peak Hour			
		Existing Conditions		Existing Plus Project		Existing Conditions		Existing Plus Project	
		V/C[2] or Delay[3]	LOS[4]	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS
1. Mather Field Road/Folsom Boulevard	Signal	0.55	A	0.57	A	0.68	B	0.70	B
2. Mather Field Road/U.S. Highway 50 WB Off-ramp	Signal	0.53	A	0.54	A	0.48	A	0.48	A
3. Mather Field Road/U.S. Highway 50 EB Off-ramp	Signal	0.72	C	0.73	C	0.59	A	0.59	A
4. Mather Field Road/Rockingham Drive	Signal	0.78	C	0.80	C	0.79	C	0.80	C
5. Mather Field Road/International Drive	Signal	0.44	A	0.45	A	0.48	A	0.50	A
6. White Rock Road/International Drive	STOP Sign	10.8	B	10.9	B	13.9	B	14.3	B
7. Zinfandel Drive/Folsom Boulevard	Signal	0.47	A	0.51	A	0.63	B	0.70	B
8. Zinfandel Drive/U.S. Highway 50 WB Off-ramp	Signal	0.60	A	0.63	A	0.58	A	0.59	A
9. Zinfandel Drive/U.S. Highway 50 EB Off-ramp	Signal	1.17	F	1.20	F	0.94	E	0.97	E
10. Zinfandel Drive/White Rock Road	Signal	0.67	B	0.67	B	0.77	C	0.82	D
11. Zinfandel Drive/Data Drive	All-Way STOP	13.2	B	16.9	C	38.9	E	66.5[5]	F[5]
12. Zinfandel Drive/International Drive	Signal	0.31	A	0.32	A	0.39	A	0.44	A
13. Prospect Park Dr. (West)/Data Dr./White Rock Rd.	Signal	0.33	A	0.38	A	0.44	A	0.53	A
14. Data Drive/Disk Drive	STOP Sign	9.7	A	10.0	A	11.7	B	22.5	C
15. Prospect Park Drive (East)/White Rock Road	Signal	0.34	A	0.44	A	0.36	A	0.46	A
16. Prospect Park Drive/Disk Drive	STOP Sign	10.2	B	12.2	B	10.9	B	13.6	B
17. Prospect Park Drive/International Drive	STOP Sign	18.1	C	22.8	C	15.0	B	17.9	C
18. Kilgore Road/White Rock Road	Signal	0.59	A	0.70	B	0.75	C	0.88	D
19. Kilgore Road/International Drive	All-Way STOP	10.3	B	11.1	B	9.9	A	10.6	B
20. Sunrise Boulevard/U.S. Highway 50 WB Off-ramp	Signal	0.70	B	0.71	C	0.80	C	0.81	D
21. Sunrise Boulevard/U.S. Highway 50 EB Off-ramp	Signal	0.75	C	0.76	C	0.68	B	0.69	B
22. Sunrise Boulevard/Folsom Boulevard	Signal	0.67	B	0.68	B	0.88	D	0.90	D
23. Sunrise Boulevard/Trade Center Drive	Signal	0.61	B	0.62	B	0.80	C	0.83	D
24. Sunrise Blvd./Sun Center Dr./Sunrise Gold Circle	Signal	0.60	A	0.60	A	0.66	B	0.68	B
25. Sunrise Boulevard/White Rock Road	Signal	0.94	E	1.00	E	0.81	D	0.89	D
26. Sunrise Boulevard/Douglas Road	Signal	0.71	C	0.74	C	0.75	C	0.79	C

Notes:
[1] Signalized Reference: Transportation Research Board, Transportation Research Circular Number 212, *Interim Materials on Highway Capacity*, 2000.
Unsignalized Reference: Transportation Research Board, *Highway Capacity Manual*, 2000.
[2] Volume/capacity ratio
[3] Average control delay (seconds per vehicle)
[4] Level of service
[5] Significant impact

Freeway Mainline Level of Service

The results of the analysis of U.S. Highway 50 mainline operations in the AM and PM peak hours under Existing + Project conditions are summarized in Table 11. Appendix B contains the level of service worksheets.

With the addition of project-generated traffic, all but one of the tested freeway segments will continue to operate at the same level of service as under Existing Conditions. The exception is the westbound segment of Highway 50 between Mather Field Road and Zinfandel Drive, which will decline from LOS D to LOS E in the AM peak hour. In general, addition of the project-generated traffic will result in relatively small increases in the freeway segment density values, ranging from 0.3 to 1.1 passenger cars per mile per lane in the AM peak hour and 0.1 to 1.5 passenger cars per mile per lane in the PM peak hour. Therefore, all of the tested freeway segments will continue to operate at acceptable levels of service under this analysis scenario (i.e., LOS E or better), and no significant impacts are projected.

TABLE 11
FREEWAY MAINLINE LEVEL OF SERVICE SUMMARY[1]
EXISTING + PROJECT CONDITIONS

	AM Peak Hour				PM Peak Hour			
	Existing Conditions		Existing + Project		Existing Conditions		Existing + Project	
U.S. Highway 50 Segment	Density[2]	LOS[3]	Density	LOS	Density	LOS	Density	LOS
Eastbound								
West of Mather Field Road	30.6	D	31.1	D	35.9	E	37.4	E
Mather Field Rd. to Zinfandel Dr.	26.8	D	27.1	D	35.0	E	36.4	E
Zinfandel Dr. to Sunrise Blvd.	18.4	C	18.7	C	30.7	D	30.8	D
East of Sunrise Boulevard	18.9	C	19.3	C	34.0	D	34.7	D
Westbound								
West of Mather Field Road	35.2	E	36.3	E	33.1	D	34.1	D
Mather Field Rd. to Zinfandel Dr.	34.7	D	35.7	E	27.6	D	28.2	D
Zinfandel Dr. to Sunrise Blvd.	38.3	E	38.7	E	20.8	C	21.2	C
East of Sunrise Boulevard	33.5	D	33.9	D	19.5	C	20.0	C

Notes:
1 Reference: Transportation Research Board, *Highway Capacity Manual*, 2000.
2 In passenger cars per mile per lane
3 Level of service

Freeway Ramp Junction Level of Service

The results of the analysis of the freeway ramp junctions for Existing + Project conditions in the AM and PM peak hours are summarized in Table 12. The level of service worksheets are presented in Appendix B.

AM Peak Hour

No change in level of service is expected at any of the freeway ramp junctions upon addition of the project-generated traffic. All but one of the freeway ramp junctions will operate at LOS E or better, thereby conforming to the Caltrans operational standard. Only the westbound off-ramp at the Zinfandel Drive interchange is projected to be at LOS F, which is unchanged from Existing Conditions. As under Existing Conditions, the LOS F finding is due to the heavy volume of traffic on the freeway mainline, which results in excessive vehicles in the two right-hand freeway lanes in the vicinity of the off-ramp. It is unlikely that a typical motorist will detect the small project-related increase in density in the vicinity of this off-ramp (i.e., an increase of 0.4 passenger cars per mile per lane).

PM Peak Hour

In the PM peak hour, the freeway ramp junction levels of service will again be unchanged from Existing Conditions. All but two of the ramp junctions will operate at LOS B or C, with the exceptions being the westbound and eastbound off-ramps at Mather Field Road (LOS D and E, respectively). All of the ramp junctions will be at acceptable levels of service.

No significant impacts are projected at the freeway ramp junctions under Existing + Project Conditions.

TABLE 12
FREEWAY RAMP JUNCTION LEVEL OF SERVICE SUMMARY[1]
EXISTING + PROJECT CONDITIONS

Freeway Ramp		AM Peak Hour				PM Peak Hour			
		Existing Conditions		Existing + Project		Existing Conditions		Existing + Project	
		Density[2]	LOS[3]	Density	LOS	Density	LOS	Density	LOS
Mather Field Road Interchange									
Westbound On-ramp	NB Loop	24.5	C	24.8	C	23.3	C	23.6	C
	SB Diagonal	25.8	C	26.1	C	25.7	C	26.0	C
Westbound Off-ramp		35.9	E	36.4	E	30.0	D	30.5	D
Eastbound On-ramp	NB Diagonal	22.4	C	22.6	C	24.3	C	24.7	C
	SB Loop	21.7	C	21.8	C	23.8	C	24.2	C
Eastbound Off-ramp		35.7	E	36.1	E	36.3	E	37.0	E
Zinfandel Drive Interchange									
Westbound On-ramp	NB Loop	24.9	C	24.9	C	21.9	C	22.2	C
	SB Diagonal	26.1	C	26.4	C	23.1	C	23.4	C
Westbound Off-ramp		38.9	F	39.3	F	23.5	C	24.5	C
Eastbound On-ramp	NB Diagonal	16.5	B	16.7	B	23.7	C	23.7	C
	SB Loop	15.7	B	15.7	B	22.9	C	22.9	C
Eastbound Off-ramp		24.2	C	24.8	C	16.4	B	17.9	B
Sunrise Boulevard Interchange									
Westbound On-ramp[4]		23.7	C	23.7	C	20.1	C	20.2	C
Westbound Off-ramp		31.5	D	31.7	D	20.4	C	21.0	C
Eastbound On-ramp[4]		16.5	B	16.7	B	22.7	C	22.8	C
Eastbound Off-ramp		12.0	B	12.2	B	20.9	C	21.0	C

Notes:
1 Reference: Transportation Research Board, *Highway Capacity Manual*, 2000.
2 In passenger cars per mile per lane
3 Level of service
4 Directional on-ramps join prior to freeway merge point

Transit System Impacts

Implementation of the proposed project has the potential to increase transit ridership on Sacramento Regional Transit's Route 74, which runs along Zinfandel Drive and Data Drive adjacent to the project site. It is anticipated that some of the project residents will use this bus route to gain access to RT's Folsom Boulevard light rail line. Also the retail center will generate some level of transit demand, although retail trips are less likely to be made by transit than are work trips, for example. The expected increase in transit usage constitutes a less-than-significant impact.

Bicycle System Impacts

No adverse impacts on the existing or planned bicycle system are foreseen in connection with the proposed project. Implementation of the proposed project will have virtually no effect on the existing and planned bicycle transportation system defined in *The 2010 Sacramento City/County Bikeway Master Plan*. However, as the project implements frontage improvements on the public streets along its boundaries (as well as International Drive), it might be required to provide on-street bike lanes to the satisfaction of the City of Rancho Cordova. In any event, the project-related impacts are considered less than significant.

Pedestrian System Impacts

Implementation of the proposed project will result in substantial enhancements to the pedestrian environment in the central portion of the City of Rancho Cordova. The trip generation estimates developed for this analysis reflect the likelihood of substantial on-site travel, much of which will occur in the form of pedestrian trips. The proposed project will create a pedestrian-friendly environment, where vacant land currently exists. Several on-site pedestrian ways will be created, which will facilitate the on-site trip interchanges among the retail, residential, and recreational/park uses. Thus, a substantial beneficial impact will occur as a result of implementation of the proposed project.

Mitigation Measures

As noted above, one study intersection is projected to have a significant impact under Existing + Project Conditions. No significant impacts were identified for either the U.S. Highway 50 mainline freeway segments or the freeway ramp junctions. A mitigation measure for the affected study intersection is described below:

- Zinfandel Drive/Data Drive (PM Peak Hour): This intersection meets the "Peak Hour Volume" signal warrant documented in "Chapter 9 – Traffic Signals and Lighting" of the Caltrans *Traffic Manual*, November 2002, even under Existing Conditions. With the addition of project-generated traffic, the need for a signal increases. A signal has been planned for this location for some time, and the design process was initiated by Sacramento County. Therefore, it is recommended that the proposed project contribute its "fair share" toward the cost of installing the signal and modifying the east and west approaches to provide a dedicated left-turn lane and a shared through/right-turn lane on those approaches. Project-related traffic will constitute approximately 10 percent of the traffic at the

intersection; therefore, the project should contribute 10 percent of the cost of these recommended improvements. Implementation of this mitigation measure will result in operation of the intersection at LOS C (V/C = 0.74).

In addition, although the project's transit-related impacts are considered less than significant, it is recommended that the project proponent undertake discussions with representatives of Sacramento Regional Transit to determine the need for provision of covered passenger shelters on Zinfandel Drive and/or Data Drive, along the path of Route 74. These discussions should also address the desirability of re-routing that bus line to enter the proposed retail center, and provide an on-site transit stop.

CUMULATIVE NO PROJECT CONDITIONS ANALYSIS

This section describes the results of the analysis of study area traffic operations under cumulative conditions in the AM and PM peak hours. This analysis reflects the level of development anticipated in the Sacramento region through the year 2025. Analyses are presented for two scenarios: (1) Cumulative No Project conditions, and (2) Cumulative + Project conditions, reflecting the addition of the traffic generated by the proposed Capital Village land uses to the "no project" volumes. To ensure consistency with other traffic analyses in Rancho Cordova, the future year traffic forecasts employed in this analysis are primarily based on preliminary information developed for the traffic analysis for the proposed Rio del Oro project, currently being prepared for the City of Rancho Cordova by Fehr & Peers Associates.

Planned Roadway Improvements

Between now and the year 2025, a variety of major transportation system improvements will be implemented in the Sacramento region. These improvements, which are reflected in the future year traffic forecasts used in this analysis, are documented in the *Metropolitan Transportation Plan for 2025* (Sacramento Area Council of Governments, Adopted July 18, 2002). Specifically, in the vicinity of the proposed Capital Village project, the future year traffic forecasts reflect the following programmed roadway improvement projects, which are generally consistent with the "Tier 1" improvements presented in the SACOG document:

- Widening of Folsom Boulevard to four lanes from Sunrise Boulevard to Aerojet Road (2005);
- Widening of Sunrise Boulevard to six lanes from White Rock Road to Douglas Road (2004);
- Widening of Sunrise Boulevard to four lanes from Douglas Road to Kiefer Road (2006);
- Widening of Sunrise Boulevard to four lanes from Kiefer Road to State Route 16 (2007);
- Widening of Zinfandel Drive to four lanes from International Drive to Douglas Road (2006);
- Widening of Douglas Road to four lanes from Sunrise Boulevard to Americanos Boulevard (2004);
- Widening of Douglas Road to six lanes from Sunrise Boulevard to Zinfandel Drive (2006);
- Construction of Mather Boulevard as a two-lane road from Mather Place to Zinfandel Drive (2006);
- Extension of International Drive as a four-lane road from Kilgore Road to Sunrise Boulevard (2009); and
- Construction of the Sunrise Reliever from Douglas Road to a new interchange at U.S. Highway 50 (2012).

It should be noted that the City of Rancho Cordova is currently developing its General Plan. The Circulation Element of that plan will define the design parameters for various roadway classifications within the City, including the number of lanes and roadway cross section needed to serve projected traffic demand. Because such information has not yet been fully developed for the roadways in the immediate vicinity of the proposed project, this analysis has made a series of conservative assumptions concerning the future roadway configurations on those streets. Generally, these assumptions reflect minimal changes to the local roadway system (with the exception of the programmed improvements listed above). With respect to the roadways in the immediate vicinity of the project site, the following basic assumptions have been incorporated into the Cumulative Conditions level of service analyses:

- International Drive: Four through lanes (i.e., two in each direction);
- Zinfandel Drive: Six through lanes (i.e., three in each direction);
- Data Drive: Two through lanes (i.e., one in each direction);
- Disk Drive: Two through lanes (i.e., one in each direction); and
- Prospect Park Drive: Two through lanes (i.e., one in each direction, although two southbound through lanes were assumed at International Drive, based on the preliminary signal design prepared for the City in April 2004 by Wood Rodgers).

The need for additional lanes on these streets is addressed as part of this analysis.

Land Use Forecasts

The year 2025 travel demand forecasts developed for the Rio del Oro project, which serve as the basis for the future traffic volumes used in this analysis, assumed full build-out of the following planned and approved development projects:

- Sun Ridge Specific Plan;
- Aerojet;
- Remainder of Sunrise Douglas Community Plan;
- Rio del Oro;
- Villages of Zinfandel;
- Mather Field Specific Plan;
- Folsom Sphere of Influence (50 percent build-out);
- North Vineyard Specific Plan;
- East Franklin Specific Plan;
- East Elk Grove Specific Plan;
- Laguna Ridge Specific Plan;
- Lent Ranch Marketplace;
- South Pointe Development; and
- Elk Grove Auto Mall.

Cumulative No Project Conditions

As noted above, the traffic volumes for Cumulative No Project conditions were derived by adjusting the Existing Conditions traffic volumes presented earlier to reflect preliminary information developed for the traffic analysis for the proposed Rio del Oro project. Those year 2025 traffic volume estimates were based on travel demand forecasts developed using the SACMET model, which was developed for and is maintained by the Sacramento Area Council of Governments.

Figure 6 illustrates the Cumulative No Project peak hour traffic volumes derived for this study. Also shown there are the intersection lane configurations assumed for year 2025 conditions.

Intersection Level of Service

Table 13 summarizes the intersection level of service results for Cumulative No Project conditions. The calculation worksheets are presented in Appendix C.

AM Peak Hour

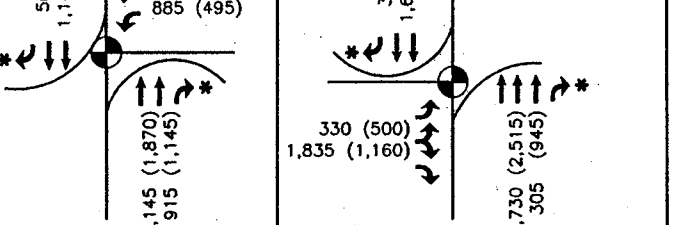
Nine of the study intersections are projected to operate at unacceptable levels of service in the AM peak hour under Cumulative No Project conditions. Those locations include:

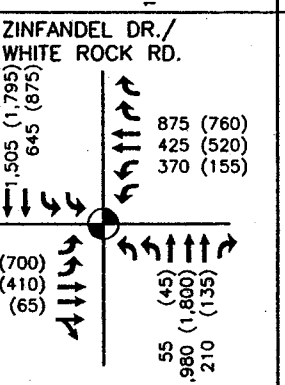
- Mather Field Road/U.S. Highway 50 Eastbound Off-ramp – LOS F;
- Mather Field Road/Rockingham Drive – LOS F;
- Mather Field Road/International Drive – LOS F;
- Zinfandel Drive/U.S. Highway 50 Eastbound Off-ramp – LOS F;
- Sunrise Boulevard/Folsom Boulevard – LOS F;
- Sunrise Boulevard/Trade Center Drive – LOS F;
- Sunrise Boulevard/Sun Center Drive/Sunrise Gold Circle – LOS F;
- Sunrise Boulevard/White Rock Road – LOS F; and
- Sunrise Boulevard/Douglas Road – LOS F.

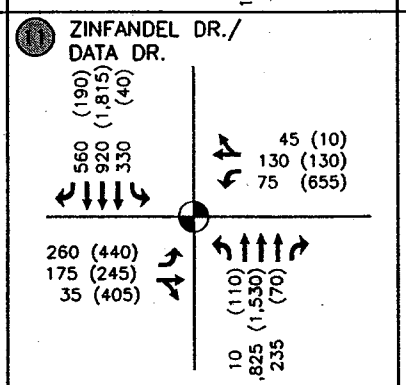
PM Peak Hour

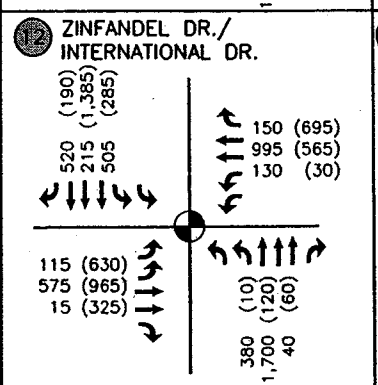
In the PM peak hour, thirteen of the study intersections are expected to fall below the applicable level of service standards, as follows:

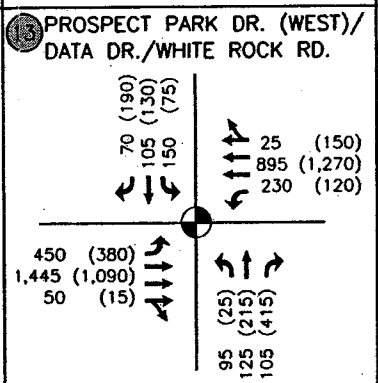
- Mather Field Road/Rockingham Drive – LOS F ;
- Zinfandel Drive/U.S. Highway 50 Eastbound Off-ramp – LOS F;
- Zinfandel Drive/White Rock Road – LOS F;
- Zinfandel Drive/Data Drive – LOS F;
- Zinfandel Drive/International Drive – LOS F;
- Data Drive/Disk Drive – LOS F;
- Kilgore Road/White Rock Road – LOS F;
- Kilgore Road/International Drive – LOS F;
- Sunrise Boulevard/U.S. Highway 50 Westbound Off-ramp – LOS F;
- Sunrise Boulevard/Folsom Boulevard – LOS F;

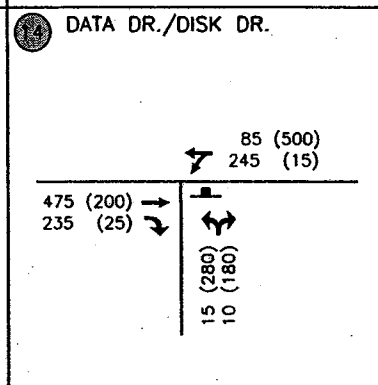


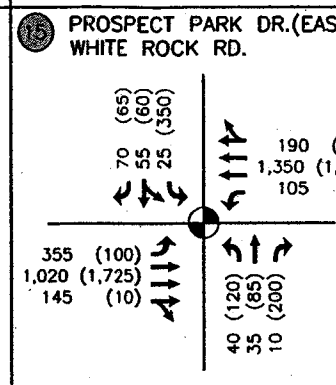


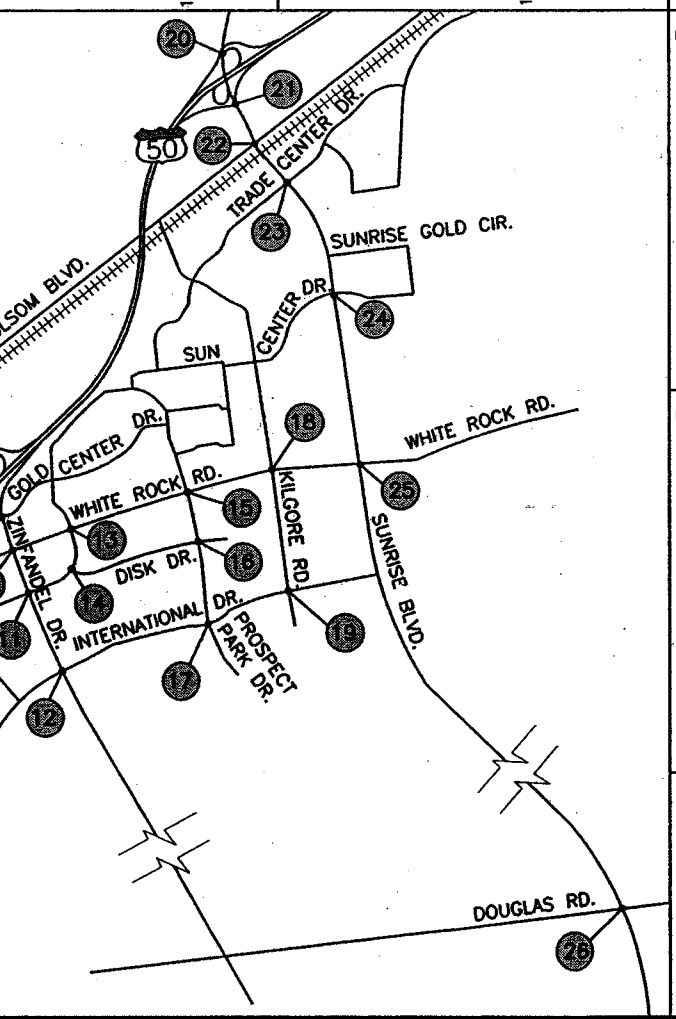


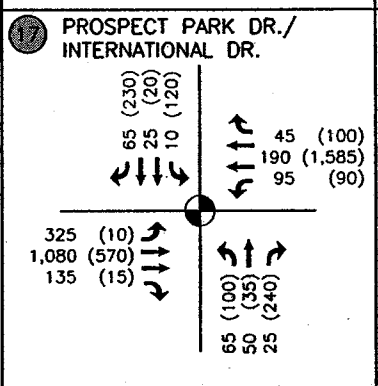


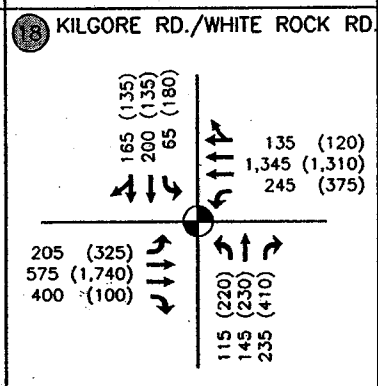


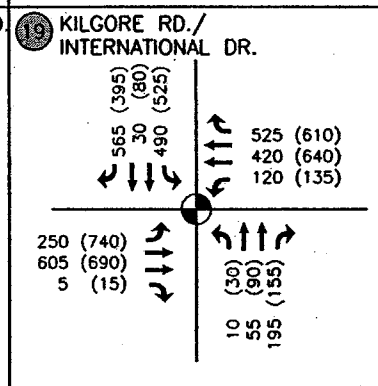


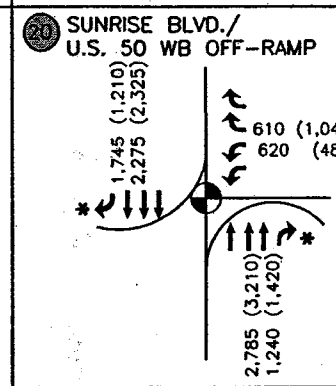


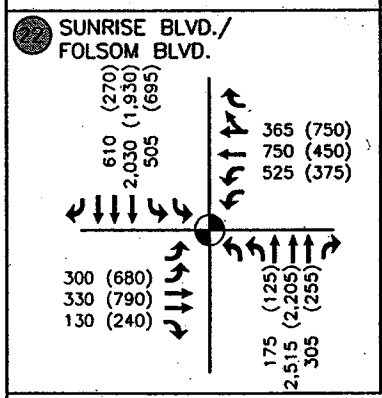


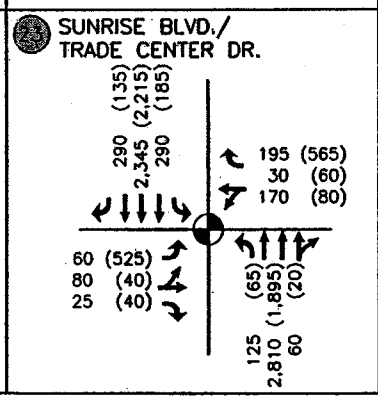


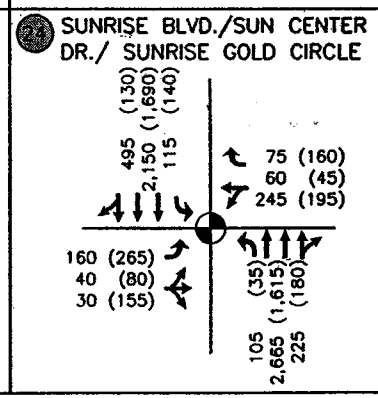












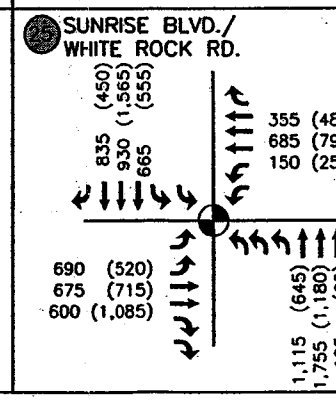


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Table 13
Intersection Level of Service Summary[1]
Cumulative No Project Conditions

Intersection	Traffic Control	AM Peak Hour V/C[2] or Delay[3]	AM Peak Hour LOS[3]	PM Peak Hour V/C or Delay	PM Peak Hour LOS
1. Mather Field Road/Folsom Boulevard	Signal	0.74	C	0.87	D
2. Mather Field Road/U.S. Highway 50 WB Off-ramp	Signal	0.79	C	0.93	E
3. Mather Field Road/U.S. Highway 50 EB Off-ramp	Signal	1.24	F	0.98	E
4. Mather Field Road/Rockingham Drive	Signal	1.44	F	1.11	F
5. Mather Field/International Drive	Signal	1.15	F	0.99	E
6. White Rock Road/International Drive	STOP Sign	16.2	C	15.5	C
7. Zinfandel Drive/Folsom Boulevard	Signal	0.84	D	0.91	E
8. Zinfandel Drive/U.S. Highway 50 WB Off-ramp	Signal	0.73	C	0.76	C
9. Zinfandel Drive/U.S. Highway 50 EB Off-ramp	Signal	1.22	F	1.27	F
10. Zinfandel Drive/White Rock Road	Signal	0.93	E	1.15	F
11. Zinfandel Drive/Data Drive	Signal	0.92	E	1.35	F
12. Zinfandel Drive/International Drive	Signal	0.94	E	1.01	F
13. Prospect Park Dr. (West)/Data Dr./White Rock Rd.	Signal	0.69	B	0.90	D
14. Data Drive/Disk Drive	STOP Sign	20.1	C	> 50.0	F
15. Prospect Park Drive (East)/White Rock Road	Signal	0.65	B	0.71	C
16. Prospect Park Drive/Disk Drive	STOP Sign	10.7	B	15.8	C
17. Prospect Park Drive/International Drive	Signal	0.51	A	0.78	C
18. Kilgore Road/White Rock Road	Signal	0.66	B	1.22	F
19. Kilgore Road/International Drive	Signal	0.97	E	1.35	F
20. Sunrise Boulevard/U.S. Highway 50 WB Off-ramp	Signal	0.85	D	1.10	F
21. Sunrise Boulevard/U.S. Highway 50 EB Off-ramp	Signal	0.77	C	0.89	D
22. Sunrise Boulevard/Folsom Boulevard	Signal	1.11	F	1.28	F
23. Sunrise Boulevard/Trade Center Drive	Signal	1.02	F	1.13	F
24. Sunrise Blvd./Sun Center Dr./Sunrise Gold Circle	Signal	1.01	F	0.83	D
25. Sunrise Boulevard/White Rock Road	Signal	1.32	F	1.02	F
26. Sunrise Boulevard/Douglas Road	Signal	1.43	F	1.75	F

Notes:
[1] Signalized Reference: Transportation Research Board, Transportation Research Circular Number 212, *Interim Materials on Highway Capacity*, 2000.
Unsignalized Reference: Transportation Research Board, *Highway Capacity Manual*, 2000.
[2] Volume/capacity ratio
[3] Average control delay (seconds per vehicle)
[4] Level of service

- Sunrise Boulevard/Trade Center Drive – LOS F;
- Sunrise Boulevard/White Rock Road – LOS F; and
- Sunrise Boulevard/Douglas Road – LOS F.

Freeway Mainline Level of Service

The results of the analysis of U.S. Highway 50 mainline operations in the AM and PM peak hours under Cumulative No Project conditions are summarized in Table 14. Appendix C contains the level of service worksheets.

AM Peak Hour

Three of the eastbound segments are projected to operate at acceptable levels of service under Cumulative No Project conditions. The projected peak-hour traffic volume on the segment west of Mather Field Road, however, exceeds the capacity of that portion of the freeway, resulting in LOS F. All four westbound segments are anticipated to be at LOS F; again, the projected traffic volumes exceed the freeway's capacity.

PM Peak Hour

In the PM peak hour, two eastbound freeway segments are projected to be at LOS F – the portion west of Mather Field Road and the section between Mather Field Road and Zinfandel Drive. The other two eastbound segments will be at LOS E, which is considered acceptable for Highway 50. In the westbound direction, all four freeway segments will be at acceptable levels of service, ranging from LOS C for the easternmost segments to LOS E for the westernmost segment.

TABLE 14
FREEWAY MAINLINE LEVEL OF SERVICE SUMMARY[1]
CUMULATIVE NO PROJECT CONDITIONS

	AM Peak Hour				PM Peak Hour			
	Eastbound		Westbound		Eastbound		Westbound	
U.S. Highway 50 Segment	Density[2]	LOS[3]	Density	LOS	Density	LOS	Density	LOS
West of Mather Field Road	--[4]	F	--[4]	F	--[4]	F	41.7	E
Mather Field Rd. to Zinfandel Dr.	33.3	D	--[4]	F	--[4]	F	34.9	D
Zinfandel Dr. to Sunrise Blvd.	23.6	C	--[4]	F	38.9	E	26.0	C
East of Sunrise Boulevard	25.1	C	--[4]	F	40.9	E	24.5	C

Notes:
1 Reference: Transportation Research Board, *Highway Capacity Manual*, 2000.
2 In passenger cars per mile per lane
3 Level of service
4 Projected freeway volume exceeds maximum service flow rate (i.e., capacity) under prevailing traffic and roadway conditions

Freeway Ramp Junction Level of Service

The results of the AM and PM peak hour analyses of the freeway ramp junctions are summarized in Table 15. The level of service worksheets are presented in Appendix C.

AM Peak Hour

At the Mather Field Road interchange, the two eastbound on-ramps are projected to operate at LOS C. The remaining ramps at that location are expected to be at LOS F under Cumulative No Project conditions. At Zinfandel Drive, all of the eastbound ramps will be at acceptable levels of service (LOS B for both on-ramps and LOS C for the off-ramp). The westbound ramps at that location are all projected to be at LOS F. The Sunrise Boulevard interchange is expected to have LOS B at the eastbound ramps and LOS F at the westbound facilities.

PM Peak Hour

The westbound ramps at Mather Field Road will have acceptable levels of service, with on-ramp operations at LOS C and the off-ramp at LOS E. In the eastbound direction, two of the ramps will be at LOS F – the diagonal on-ramp from northbound Mather Field Road and the off-ramp; the loop on-ramp from southbound Mather Field Road will be at LOS C. All but one of the Zinfandel Drive ramps will have acceptable levels of service (i.e., LOS C or D). The exception is the eastbound off-ramp, which will be at LOS F. At Sunrise Boulevard, acceptable operations are projected at all of the ramps (i.e., LOS C or D).

Cumulative No Project Transit Conditions

It is difficult to project transit conditions in the year 2025. As noted above, substantial expansions in transit service are anticipated throughout the RT system, particularly in terms of extensions of the light rail system. For example, the light rail extension to Folsom is expected to be operational in late 2005. Based on this, it is expected that greater numbers of Rancho Cordova residents and employees will depend on RT service. The exact number of such transit users, however, is unknown.

Cumulative No Project Bicycle Conditions

As noted earlier, the City of Rancho Cordova has not yet adopted a Bikeway Master Plan, which would specify desired improvements in the form of on-street and off-street bikeways. However, the current City of Rancho Cordova Improvement Standards call for installation of Class II/on-street bicycle lanes on all new or improved arterials or thoroughfares. The ability to implement any such improvements will largely depend upon the availability of sufficient funding or the ability to place corresponding conditions of approval on development projects. Because the future status of the various potential funding sources is uncertain, this analysis assumes that no improvements to the bikeway system serving the proposed project site will be achieved within the analysis time frame.

Cumulative No Project Pedestrian Conditions

Pedestrian facilities in the study area are unlikely to be substantially enhanced within the cumulative conditions time frame. Improvements are likely to be in the form of maintenance of the existing sidewalks, rather than expansion of these facilities.

Table 15
Freeway Ramp Junction Level of Service Summary[1]
Cumulative No Project Conditions

Freeway Ramp		AM Peak Hour		PM Peak Hour	
		Density[2]	LOS[3]	Density	LOS
Mather Field Road Interchange					
Westbound On-ramp	NB Loop Ramp	31.7	F	24.8	C
	SB Diagonal Ramp	35.6	F	28.0	C
Westbound Off-ramp		52.0	F	36.8	E
Eastbound On-ramp	NB Diagonal Ramp	25.3	C	27.4	F
	SB Loop Ramp	24.4	C	27.5	C
Eastbound Off-ramp		47.6	F	47.4	F
Zinfandel Drive Interchange					
Westbound On-ramp	NB Loop Ramp	29.3	F	23.2	C
	SB Diagonal Ramp	31.3	F	25.3	C
Westbound Off-ramp		47.2	F	31.3	D
Eastbound On-ramp	NB Diagonal Ramp	19.9	B	26.2	C
	SB Loop Ramp	18.7	B	26.3	C
Eastbound Off-ramp		27.3	C	25.5	F
Sunrise Boulevard Interchange					
Westbound On-ramp[4]		24.4	F	23.8	C
Westbound Off-ramp		40.5	F	28.3	D
Eastbound On-ramp[4]		19.4	B	23.6	C
Eastbound Off-ramp		16.5	B	28.0	C

Notes:
1 Reference: Transportation Research Board, *Highway Capacity Manual*, 2000.
2 In passenger cars per mile per lane
3 Level of service
4 Directional on-ramps join prior to freeway merge point

CUMULATIVE + PROJECT CONDITIONS ANALYSIS

The following sections address the effects of adding the project-generated traffic to the Cumulative No Project volumes derived above.

Project Trip Generation

The derivation of the project-generated peak hour traffic volumes was described earlier. Although the potential exists that, due to expansion of transit service and changes in land use development patterns, an increased proportion of project-generated trips will be accommodated by non-automotive means (e.g., transit, walking, bicycling), this analysis has assumed that no such reduction in project-related travel will occur.

Tables 8 and 9 (pages 19 and 21) summarize the peak-hour trip generation estimates for the proposed Capital Village project.

Project Trip Distribution

Based on the results of the travel demand forecasting process described above, the geographic distribution of traffic in the vicinity of the proposed project is expected to be slightly different in the year 2025 than was found for Existing Conditions. This is due, in part, to the substantial additional development expected to the south and east of the project site. The planned southerly extension of Zinfandel Drive (which will connect to Eagles Nest Drive) also contributes to the modified trip distribution. Figure 7 illustrates the project trip distribution anticipated in the year 2025.

Intersection Traffic Volumes

Using the previously-developed project trip generation figures and the trip distribution shown on Figure 7, the project-related trips were assigned to the future road network. The Cumulative + Project traffic volumes are illustrated on Figure 8.

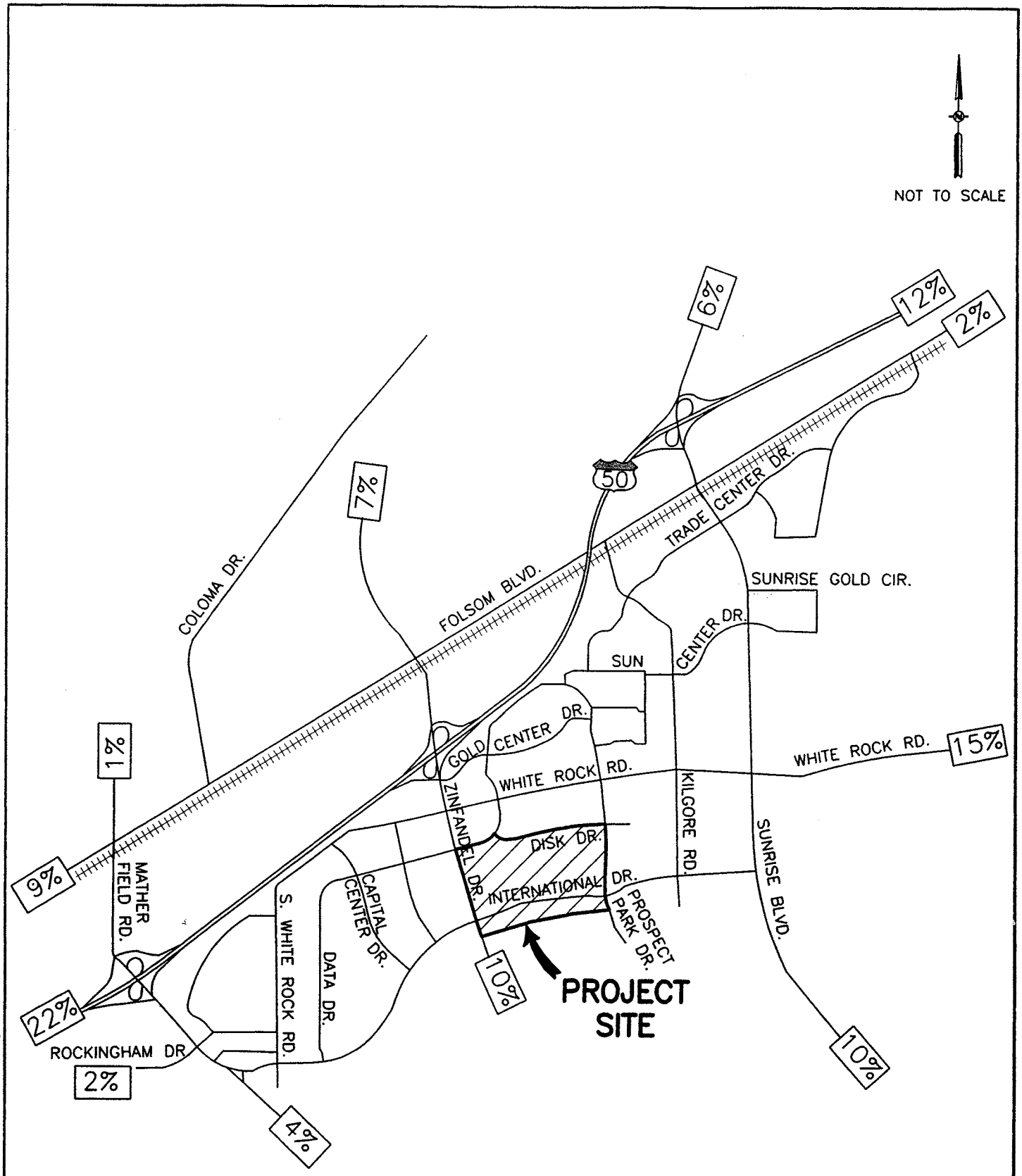
Intersection Level of Service

Table 16 presents the results of the intersection level of service analysis for the Cumulative + Project scenario. Appendix D contains the calculation worksheets.

AM Peak Hour

Addition of the project-generated traffic will have relatively little effect on intersection operations in the AM hour. Nine study intersections are projected to operate at unacceptable levels of service, all of which did so under Cumulative No Project conditions. The specific locations are:

- Mather Field Road/U.S. Highway 50 Eastbound Off-ramp – LOS F;
- Mather Field Road/Rockingham Drive – LOS F;
- Mather Field Road/International Drive – LOS F;



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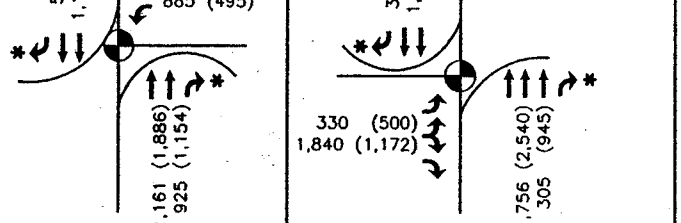
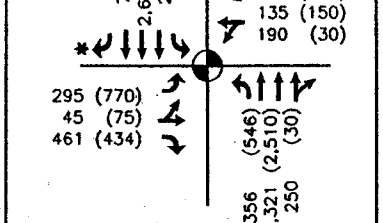
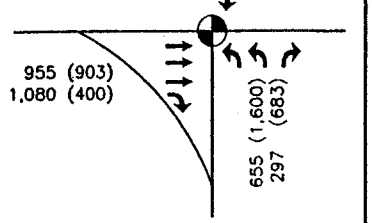
Fax (916) 783-5003
www.mroengineers.com

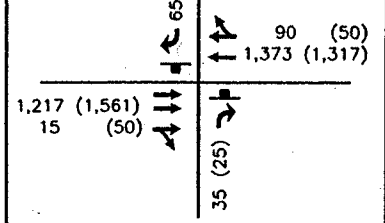
PROJECT TRIP DISTRIBUTION
CUMULATIVE + PROJECT CONDITIONS

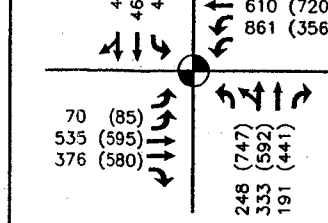
FIGURE 7

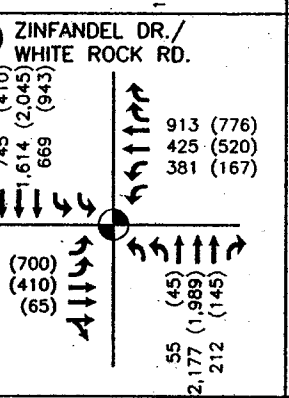


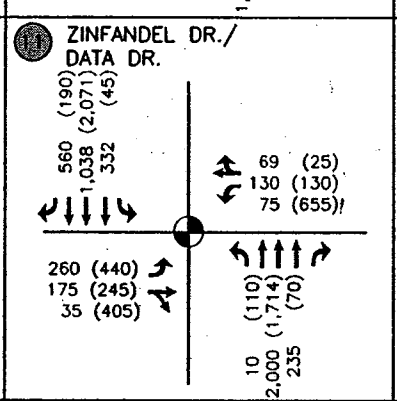


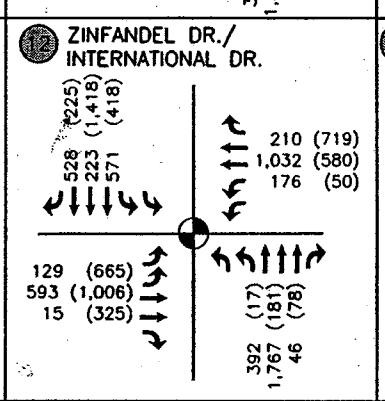


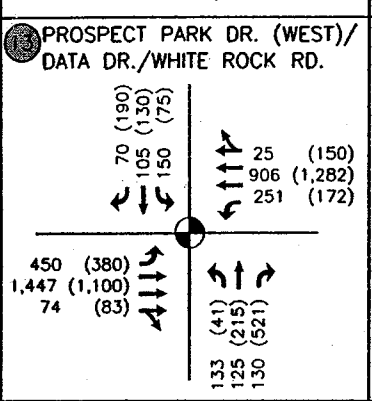


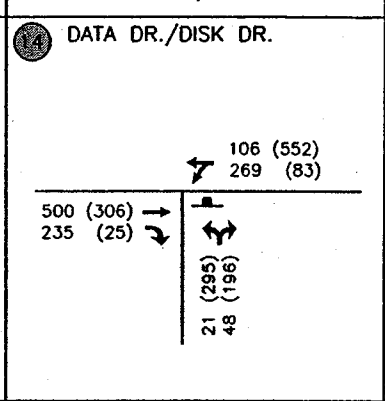


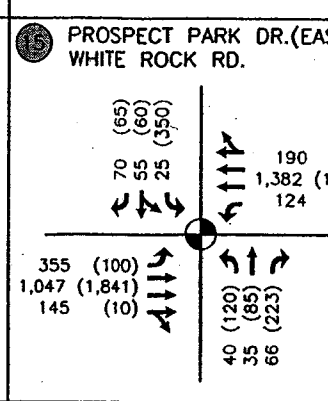


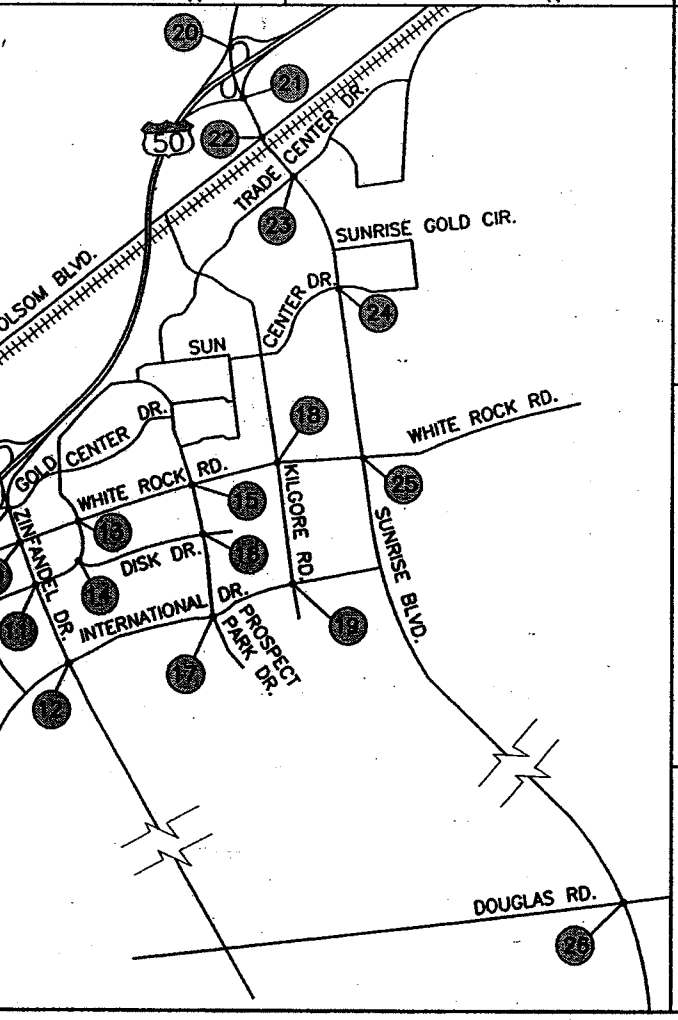


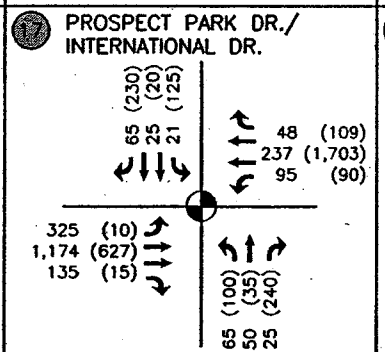


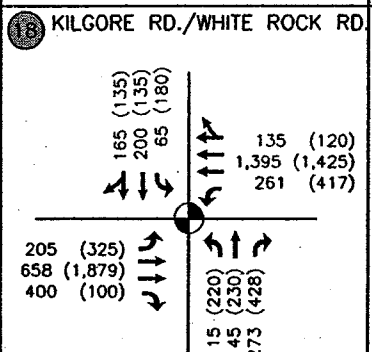


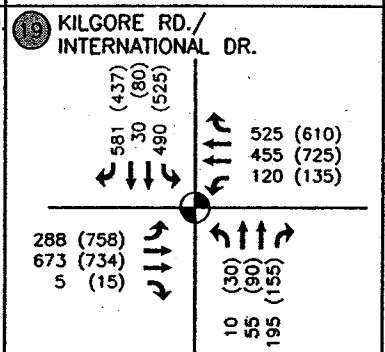


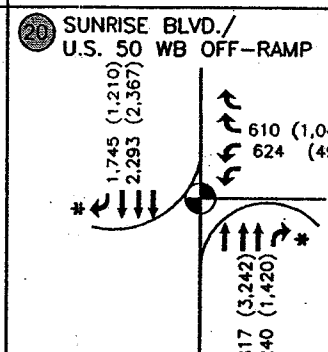


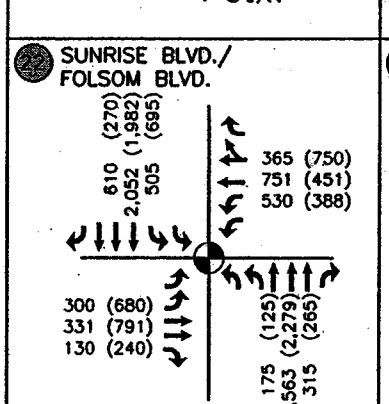


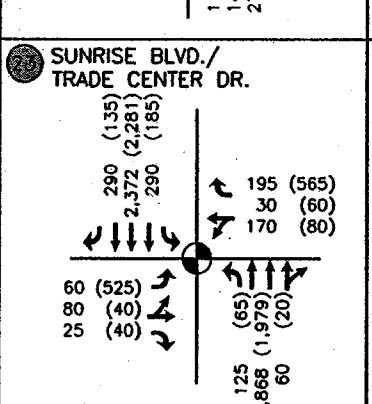


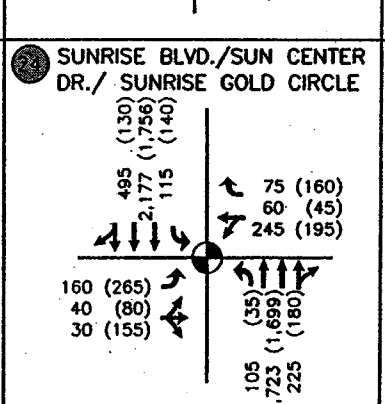


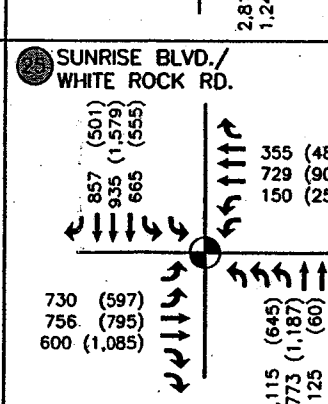












LEGEND

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XXX (XXX) AM(PM) P
TRAFFIC V

TABLE 16
INTERSECTION LEVEL OF SERVICE SUMMARY
CUMULATIVE + PROJECT CONDITIONS

Intersection	Traffic Control	AM Peak Hour				PM Peak Hour			
		Cumulative No Project		Cumulative Plus Project		Cumulative No Project		Cumulative Plus Project	
		V/C[2] or Delay[3]	LOS[4]	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS
1. Mather Field Road/Folsom Boulevard	Signal	0.74	C	0.75	C	0.87	D	0.88	D
2. Mather Field Road/U.S. Highway 50 WB Off-ramp	Signal	0.79	C	0.79	C	0.93	E	0.94	E
3. Mather Field Road/U.S. Highway 50 EB Off-ramp	Signal	1.24	F	1.24	F	0.98	E	0.99	E
4. Mather Field Road/Rockingham Drive	Signal	1.44	F	1.45	F	1.11	F	1.13	F
5. Mather Field Road/International Drive	Signal	1.15	F	1.16	F	0.99	E	1.00	E
6. White Rock Road/International Drive	STOP Sign	16.2	C	16.9	C	15.5	C	16.0	C
7. Zinfandel Drive/Folsom Boulevard	Signal	0.84	D	0.87	D	0.91	E	0.98	E
8. Zinfandel Drive/U.S. Highway 50 WB Off-ramp	Signal	0.73	C	0.76	C	0.76	C	0.78	C
9. Zinfandel Drive/U.S. Highway 50 EB Off-ramp	Signal	1.22	F	1.26	F	1.27	F	1.31	F
10. Zinfandel Drive/White Rock Road	Signal	0.93	E	0.99	E	1.15	F	1.22[5]	F[5]
11. Zinfandel Drive/Data Drive	Signal	0.92	E	0.97	E	1.35	F	1.40[5]	F[5]
12. Zinfandel Drive/International Drive	Signal	0.94	E	0.99	E	1.01	F	1.05	F
13. Prospect Park Dr. (West)/Data Dr./White Rock Rd.	Signal	0.69	B	0.69	B	0.90	D	0.97	E
14. Data Drive/Disk Drive	STOP Sign	20.1	C	20.1	C	> 50.0	F	> 50.0[5]	F[5]
15. Prospect Park Drive (East)/White Rock Road	Signal	0.65	B	0.68	B	0.71	C	0.77	C
16. Prospect Park Drive/Disk Drive	STOP Sign	10.7	B	12.5	B	15.8	C	19.6	C
17. Prospect Park Drive/International Drive	Signal	0.51	A	0.54	A	0.78	C	0.82	D
18. Kilgore Road/White Rock Road	Signal	0.66	B	0.70	B	1.22	F	1.31[5]	F[5]
19. Kilgore Road/International Drive	Signal	0.97	E	1.00	E	1.35	F	1.37	F
20. Sunrise Boulevard/U.S. Highway 50 WB Off-ramp	Signal	0.85	D	0.86	D	1.10	F	1.10	F
21. Sunrise Boulevard/U.S. Highway 50 EB Off-ramp	Signal	0.77	C	0.77	C	0.89	D	0.89	D
22. Sunrise Boulevard/Folsom Boulevard	Signal	1.11	F	1.12	F	1.28	F	1.29	F
23. Sunrise Boulevard/Trade Center Drive	Signal	1.02	F	1.03	F	1.13	F	1.15	F
24. Sunrise Blvd./Sun Center Dr./Sunrise Gold Circle	Signal	1.01	F	1.02	F	0.83	D	0.85	D
25. Sunrise Boulevard/White Rock Road	Signal	1.32	F	1.35	F	1.02	F	1.05	F
26. Sunrise Boulevard/Douglas Road	Signal	1.43	F	1.44	F	1.75	F	1.76	F

Notes:
[1] Signalized Reference: Transportation Research Board, Transportation Research Circular Number 212, *Interim Materials on Highway Capacity*, 2000.
Unsignalized Reference: Transportation Research Board, *Highway Capacity Manual*, 2000.
[2] Volume/capacity ratio
[3] Average control delay (seconds per vehicle)
[4] Level of service
[5] Significant impact

- Zinfandel Drive/U.S. Highway 50 Eastbound Off-ramp – LOS F;
- Sunrise Boulevard/Folsom Boulevard – LOS F;
- Sunrise Boulevard/Trade Center Drive – LOS F;
- Sunrise Boulevard/Sun Center Drive/Sunrise Gold Circle – LOS F;
- Sunrise Boulevard/White Rock Road – LOS F; and
- Sunrise Boulevard/Douglas Road – LOS F.

None of the intersections listed above is projected to have a significant impact, as none will have a project-related increase in V/C ratio that exceeds the established threshold for locations that operate at LOS F under "no project" conditions (i.e., an incremental impact of 0.05 or more).

PM Peak Hour

Thirteen study intersections will fall short of the adopted operational standards in the PM peak hour. All of those also did so under Cumulative No Project conditions. The thirteen locations include:

- Mather Field Road/Rockingham Drive – LOS F;
- Zinfandel Drive/U.S. Highway 50 Eastbound Off-ramp – LOS F;
- Zinfandel Drive/White Rock Road – LOS F (a ***significant impact***);
- Zinfandel Drive/Data Drive – LOS F (a ***significant impact***);
- Zinfandel Drive/International Drive – LOS F;
- Data Drive/Disk Drive – LOS F (a ***significant impact***);
- Kilgore Road/White Rock Road – LOS F (a ***significant impact***);
- Kilgore Road/International Drive – LOS F;
- Sunrise Boulevard/U.S. Highway 50 Westbound Off-ramp – LOS F;
- Sunrise Boulevard/Folsom Boulevard – LOS F;
- Sunrise Boulevard/Trade Center Drive – LOS F;
- Sunrise Boulevard/White Rock Road – LOS F; and
- Sunrise Boulevard/Douglas Road – LOS F.

The remaining thirteen study intersections are projected to operate at LOS C, D, or E. As shown, ***significant impacts*** are anticipated at four locations. In each case, this is because the project-related incremental increase in intersection V/C ratio (for signalized intersections) or delay (for the unsignalized location) exceeds the threshold established by the City.

Freeway Mainline Level of Service

The results of the analysis of U.S. Highway 50 mainline operations in the AM and PM peak hours under Cumulative + Project conditions are summarized in Table 17. Appendix D contains the level of service worksheets.

TABLE 17
FREEWAY MAINLINE LEVEL OF SERVICE SUMMARY[1]
CUMULATIVE + PROJECT CONDITIONS

I-80 Segment	AM Peak Hour				PM Peak Hour			
	Cumulative No Project		Cumulative + Project		Cumulative No Project		Cumulative + Project	
	Density[2]	LOS[3]	Density	LOS	Density	LOS	Density	LOS
Eastbound								
West of Mather Field Road	--[4]	F	--[4]	F	--[4]	F	--[4]	F
Mather Field Rd. to Zinfandel Dr.	33.3	D	33.8	D	--[4]	F	--[4]	F
Zinfandel Dr. to Sunrise Blvd.	23.6	C	23.9	C	38.9	E	39.1	E
East of Sunrise Boulevard	25.1	C	25.5	C	40.9	E	41.7	E
Westbound								
West of Mather Field Road	--[4]	F	--[4]	F	41.7	E	43.0	E
Mather Field Rd. to Zinfandel Dr.	--[4]	F	--[4]	F	34.9	D	35.7	E
Zinfandel Dr. to Sunrise Blvd.	--[4]	F	--[4]	F	26.0	C	26.4	D
East of Sunrise Boulevard	--[4]	F	--[4]	F	24.5	C	24.9	C

Notes:
1 Reference: Transportation Research Board, *Highway Capacity Manual*, 2000.
2 In passenger cars per mile per lane
3 Level of service
4 Projected freeway volume exceeds maximum service flow rate (i.e., capacity) under prevailing traffic and roadway conditions

AM Peak Hour

In the eastbound direction, the segment of Highway 50 west of Mather Field Road will again operate at LOS F with the addition of project-generated traffic. The projected density values for the other three segments will increase by 0.3 - 0.5 passenger cars per mile per lane, and they will continue to operate at LOS C or D. The westbound segments will all operate at LOS F, as they do under Cumulative No Project conditions.

PM Peak Hour

No change in level of service is anticipated in the eastbound direction with the addition of the project-related traffic. The two western segments are expected to be at LOS F and the two eastern segments will be at LOS E. In the westbound direction, all four freeway segments will operate at LOS E or better and will, therefore, conform to the Caltrans operational standard for Highway 50.

Freeway Ramp Junction Level of Service

Table 18 presents the results of the analysis of the freeway ramp junctions for Cumulative + Project conditions in the PM peak hour. The level of service worksheets are presented in Appendix D.

AM Peak Hour

Relatively small increases in vehicular density are projected in the AM peak hour with the addition of project-generated traffic, and no change in level of service is expected. Specifically, the density increases range from no change to 0.5 passenger cars per mile per lane. At the Mather Field Road interchange, the westbound ramps will continue to operate at LOS F, as will the eastbound off-ramp. Project-related increases in vehicular density at those locations will be in the range of 0.2 - 0.4 passenger cars per mile per lane, too small to be discernible to the average driver. The eastbound on-ramps at Mather Field Road will both be at LOS C.

The westbound ramps at the Zinfandel Drive interchange will also be at LOS F, as under Cumulative No Project conditions. Again, the project-related increase in vehicular density at these locations will be minimal (0.2 or 0.3 passenger cars per mile per lane), so that no difference will be noticeable by drivers on the freeway. The eastbound on-ramps will operate at LOS B, while the eastbound off-ramp will be at LOS C.

The westbound ramps at Sunrise Boulevard are projected to be at LOS F, although no change in vehicular density is projected at the on-ramp and a small increase (0.2 passenger cars per mile per lane) at the off-ramp. The eastbound ramps will be at LOS B.

PM Peak Hour

The only change in level of service at the Mather Field Road interchange is projected at the diagonal on-ramp serving traffic approaching from north of the freeway; that ramp will remain at an acceptable LOS D, even with the project-related traffic. Two of the eastbound ramps will be at LOS F, the same as under Cumulative No Project conditions – the diagonal on-ramp and the off-ramp.

At the Zinfandel Drive interchange, only the eastbound off-ramp will fall short of acceptable operations. The other ramps will be at LOS C or D.

All of the Sunrise Boulevard ramps will be at acceptable levels of service – LOS C or D.

TABLE 18
FREEWAY RAMP JUNCTION LEVEL OF SERVICE SUMMARY[1]
CUMULATIVE + PROJECT CONDITIONS

Freeway Ramp		AM Peak Hour				PM Peak Hour			
		Cumulative No Project		Cumulative + Project		Cumulative No Project		Cumulative + Project	
		Density[2]	LOS[3]	Density	LOS	Density	LOS	Density,	LOS
Mather Field Road Interchange									
Westbound On-ramp	NB Loop	31.7	F	31.9	F	24.8	C	25.0	C
	SB Diagonal	35.6	F	35.9	F	28.0	C	28.3	D
Westbound Off-ramp		52.0	F	52.4	F	36.8	E	37.2	E
Eastbound On-ramp	NB Diagonal	25.3	C	25.5	C	27.4	F	27.7	F
	SB Loop	24.4	C	24.6	C	27.5	C	27.9	C
Eastbound Off-ramp		47.6	F	47.9	F	47.4	F	48.1	F
Zinfandel Drive Interchange									
Westbound On-ramp	NB Loop	29.3	F	29.5	F	23.2	C	23.4	C
	SB Diagonal	31.3	F	31.5	F	25.3	C	25.6	C
Westbound Off-ramp		47.2	F	47.5	F	31.3	D	32.0	D
Eastbound On-ramp	NB Diagonal	19.9	B	20.0	B	26.2	C	26.2	C
	SB Loop	18.7	B	18.7	B	26.3	C	26.3	C
Eastbound Off-ramp		27.3	C	27.8	C	25.5	F	26.8	F
Sunrise Boulevard Interchange									
Westbound On-ramp[4]		24.4	F	24.4	F	23.8	C	23.8	C
Westbound Off-ramp		40.5	F	40.7	F	28.3	D	28.7	D
Eastbound On-ramp[4]		19.4	B	19.6	B	23.6	C	23.7	C
Eastbound Off-ramp		16.5	B	16.6	B	28.0	C	28.0	C

Notes:
1 Reference: Transportation Research Board, *Highway Capacity Manual*, 2000.
2 In passenger cars per mile per lane
3 Level of service
4 Directional on-ramps join prior to freeway merge point

Cumulative Plus Project Transit Conditions

Implementation of the proposed project has the potential to increase transit ridership on the Sacramento Regional Transit system. Some of the project residents can be expected use available bus routes to gain access to the Folsom Boulevard light rail line. Also the retail center will generate some level of transit demand, although retail trips are less likely to be made by transit than are residentially-based work trips. Because the proposed project is not expected to substantially interfere with existing or planned transit facilities in the study area, no significant transit impacts are foreseen.

Cumulative Plus Project Bicycle Conditions

No adverse impacts on the existing or planned bicycle system are foreseen in connection with the proposed project. Implementation of the proposed project will have virtually no effect on the existing and planned bicycle transportation system defined in *The 2010 Sacramento City/County Bikeway Master Plan*. However, as the project implements frontage improvements on the public streets along its boundaries (as well as International Drive), it might be required to provide on-street bike lanes to the satisfaction of the City of Rancho Cordova. In any event, the project-related impacts are considered less than significant.

Cumulative Plus Project Pedestrian Conditions

Implementation of the proposed project will result in substantial enhancements to the pedestrian environment in the central portion of the City of Rancho Cordova. The trip generation estimates developed for this analysis reflect the likelihood of substantial on-site travel, much of which will occur in the form of pedestrian trips. The proposed project will create a pedestrian-friendly environment, where vacant land currently exists. Several on-site pedestrian ways will be created, which will facilitate the on-site trip interchanges among the retail, residential, and recreational/park uses. Thus, a substantial beneficial impact will occur as a result of implementation of the proposed project, and no cumulative significant impacts are projected.

Mitigation Measures

In the AM peak hour, none of the study intersections was found to have a significant impact under Cumulative Plus Project conditions, while four locations are expected to have significant impacts in the PM peak hour. Mitigation measures to address the PM peak hour impacts are described below:

- Zinfandel Drive/White Rock Road: Addition of a third westbound through lane is recommended to mitigate the project-related impact. Upon completion of this improvement, the westbound approach would include dual left-turn lanes, three through lanes, and dual right-turn lanes. Implementation of this measure would result in a PM peak hour V/C ratio of 1.16, which reduces the project-related impact to less than significant..
- Zinfandel Drive/Data Drive: The project-related traffic impact would be mitigated by modifying the eastbound and westbound approaches to provide additional left-turn capacity. This would be accomplished by restriping the shared through/right-turn lane to accommodate left turns as well. With completion of this improvement, the eastbound and westbound approaches would consist of one dedicated left-turn lane and one shared left-turn/through/right-turn lane. The traffic signal timing would also need to be modified to operate the east and west approaches with "split" phasing, due to

the use of shared turn lanes. Under this timing scheme, the east and west intersection approaches would receive a green signal indication separately; there would be no overlap or simultaneous operation of those two approaches. These measures will result in a V/C ratio of 1.24, which is a substantial improvement over the Cumulative No Project conditions result (V/C = 1.35).

- Data Drive/Disk Drive: Mitigation of the Cumulative Plus Project conditions impact involves installation of a traffic signal, combined with appropriate modifications to the intersection lane configurations. Separate turn lanes should be provided on all three intersection approaches, resulting in the following recommended lanes:
    - Northbound Data Drive: One through lane and one right-turn lane,
    - Southbound Data Drive: One left-turn lane and one through lane, and
    - Westbound Disk Drive: One left-turn lane and one right-turn lane.

  In addition, the signal should be interconnected and coordinated with the adjacent traffic signals at the intersections of Zinfandel Drive/Data Drive and Prospect Park Drive (West)/Data Drive/White Rock Road. Implementation of this mitigation measure will result in operation of the intersection at LOS A (V/C = 0.57) in the PM peak hour.
- Kilgore Road/White Rock Road: Implementation of right-turn overlap phasing on the northbound approach (simultaneous with the protected westbound left-turn phase) would improve the V/C ratio at this intersection to 1.18, which is better than the Cumulative No Project conditions result.

Local Street Configurations

As noted earlier, because the City of Rancho Cordova has not yet adopted its own General Plan, some uncertainty exists as to the intended ultimate lane configurations on streets within the City. For the proposed project, this is of primary interest with respect to the streets adjacent to the project site, including Zinfandel Drive, International Drive, Data Drive, Disk Drive, and Prospect Park Drive. The analysis presented above has assumed no substantial change in the number of lanes on these streets, with the exception of Zinfandel Drive, which was assumed to be expanded from four through lanes (two in each direction) to six through lanes (three in each direction) adjacent to the site.

The potential effects on intersection operations associated with widening the other streets is addressed here:

- International Drive: Calculations were performed at the intersections of Zinfandel Drive/International Drive, Prospect Park Drive/International Drive, and Kilgore Road/International Drive to test the effect of widening International Drive to six lanes.

AM Peak Hour

As noted above, an AM peak hour mitigation measure was identified for the Zinfandel Drive/International Drive, calling for three westbound lanes at that location (by converting the existing separate right-turn lane to a shared through/right-turn lane). However, addition of a corresponding third eastbound through lane has no additional beneficial effect. The intersection of Prospect Park Drive/International Drive is projected to operate at LOS A with four lanes on International Drive, so adding east-west through lanes is of questionable value. At Kilgore

Road/International Drive, the analysis indicates that providing three through lanes in the east and west directions has no effect on the intersection's V/C ratio.

PM Peak Hour

A six-lane cross section on International Drive would have no beneficial effect at the intersections of Zinfandel Drive/International Drive and Kilgore Road/International Drive; the V/C ratios would be unchanged from the four-lane result. At Prospect Park Drive/International Drive, operations would be improved to LOS B (V/C = 0.63), but that location was projected to have an acceptable level of service (i.e., LOS D, V/C = 0.85) with four lanes on International Drive.

Therefore, the analysis indicates no substantial benefit results from widening International Drive to six lanes.

- Data Drive: Although PM peak hour level of service issues were identified for Data Drive's intersections with Prospect Park Drive/White Rock Road and Disk Drive, the mitigation measures presented above result in operation at acceptable levels of service. At the Zinfandel Drive/Data Drive intersection, the recommended mitigation measures are adequate to offset the project-related impacts, but do not allow operation at LOS D or better. Further analysis revealed that additional through lanes on Data Drive will have no beneficial effect at this location.

  Thus, additional through lanes on Data Drive are not warranted by the analysis results.

- Disk Drive: With implementation of the recommended mitigation measures described above, no need for additional through lanes on Disk Drive is apparent.

- Prospect Park Drive: The analysis indicated that two through lanes will be adequate on Prospect Park Drive, and there is no project-related need to expand the road to four through lanes (although such an expansion may be desirable to meet other City objectives).

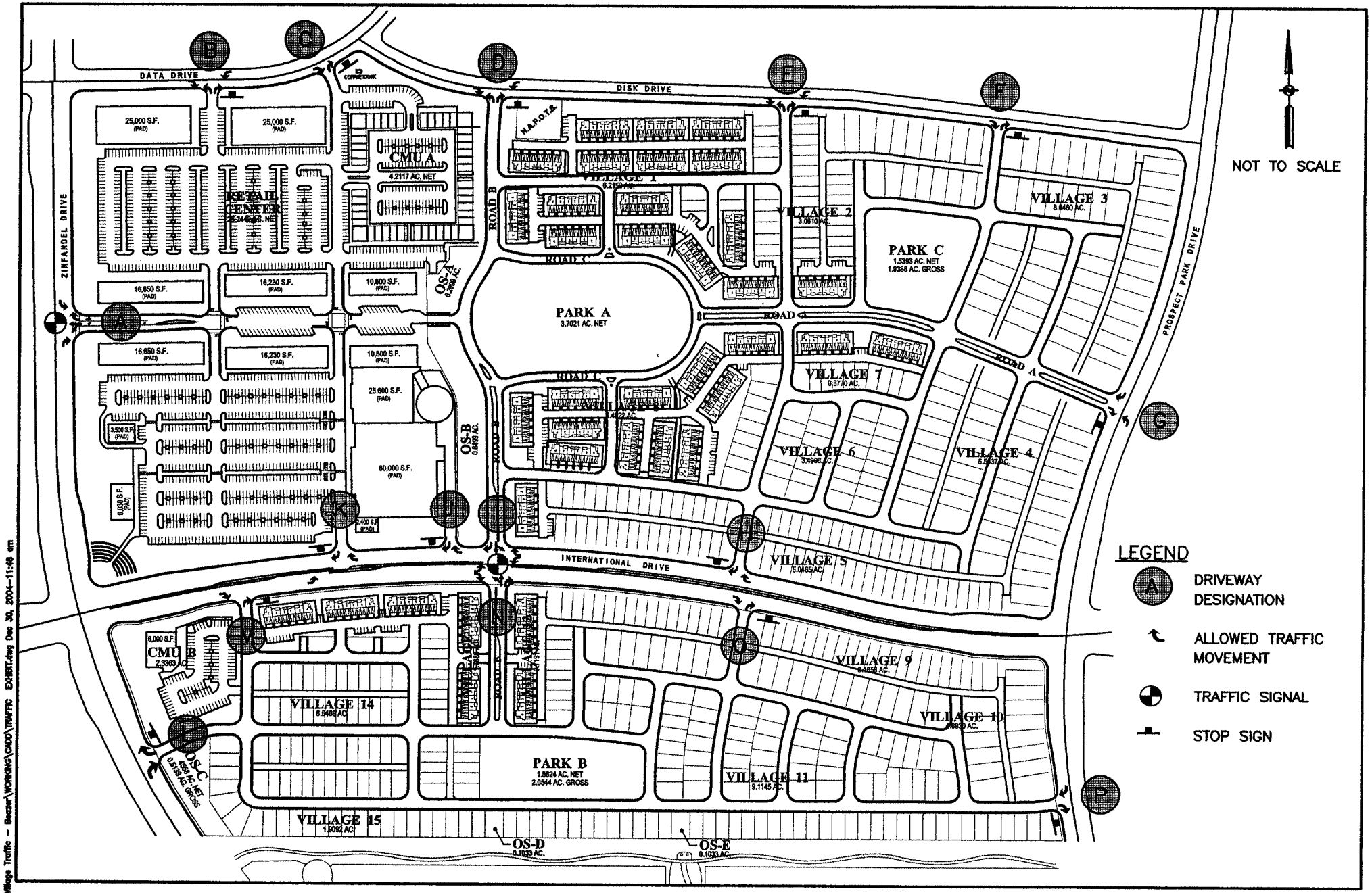
PROJECT ACCESS & CIRCULATION

This section describes the vehicular access system associated with the proposed project. As shown on Figure 9, a total of sixteen driveways are proposed at the project site. The characteristics of these access points are described below, with the northern and southern portions of the project site presented separately (with International Drive as the dividing line for this discussion). On-site circulation issues are also addressed.

Project Access System

Northern Project Area

- Driveway A
  - Traffic signal control (Signal to be interconnected and coordinated with adjacent signals at Zinfandel Drive/Data Drive and Zinfandel Drive/International Drive).
  - Full access (all turning movements allowed).
  - Separate turn lanes should be provided for inbound left-turn and right-turn movements.
  - Recommended outbound/westbound lane configuration: One shared through/left-turn lane and one separate right-turn lane.
  - Project developer should work with the City of Rancho Cordova and property owners on the west side of Zinfandel Drive to reconfigure and consolidate access driveways on the west side of the street at the newly-signalized intersection (with a similar eastbound approach configuration as described for the westbound approach).
- Driveways B, D, and E
  - STOP-sign control for traffic exiting the project site.
  - Full access (all turning movements allowed).
  - Separate left-turn lane should be provided for inbound left-turn movements, but a separate turn lane is not necessary for inbound right-turns.
  - Separate turn lanes should be provided for outbound left-turn and right-turn movements, to minimize delay for right-turning drivers.
- Driveways C, F, and H
  - STOP-sign control for traffic exiting the project site.
  - Right turns in and out only.
  - No separate right-turn lane is necessary for inbound traffic.
- Driveways G and K
  - STOP-sign control for traffic exiting the project site.
  - Left turns in plus right turns in/out (no outbound left turns).
  - Separate left-turn lane should be provided for inbound left-turn movements.
  - No separate right-turn lane is necessary for inbound traffic.



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PROJECT ACCESS SYSTEM

FIGURE 9

- Driveway I (Similar to Driveway N below)
  - Traffic signal control.
  - Full access (all turning movements allowed).
  - Separate turn lanes should be provided for inbound left-turn and right-turn movements.
  - Recommended southbound (i.e., outbound) lane configuration: One shared through/left-turn lane and one separate right-turn lane.
- Driveway J
  - Service/delivery traffic only.
  - STOP-sign control for traffic exiting the project site.
  - Right turns in and out only.
  - No separate right-turn lane is necessary for inbound traffic.

Southern Project Area

- Driveways L, M, O, and P
  - STOP-sign control for traffic exiting the project site.
  - Right turns in and out only.
  - No separate right-turn lane is necessary for inbound traffic.
- Driveway N (Similar to Driveway I above)
  - Traffic signal control.
  - Full access (all turning movements allowed).
  - Separate turn lanes should be provided for inbound left-turn and right-turn movements.
  - Recommended northbound (i.e., outbound) lane configuration: One shared through/left-turn lane and one separate right-turn lane.

On-Site Circulation

Review of the proposed project's on-site circulation system indicated that drivers will generally be able to travel about the site safely. Only one potential issue was identified, having to do with the main east-west access roadway serving the retail center. That roadway, which will connect directly to the project's signalized access intersection at Zinfandel Drive (i.e., Access Driveway A, as described above), is shown to have angled parking spaces on its two western segments. It is recommended that these parking spaces be removed from this critical internal access roadway, as they will obstruct traffic flows and potentially result in collisions as drivers back out of the spaces. It is also likely that drivers will attempt to enter spaces on the opposite side of the internal street, which will require that they perform a U-turn in the limited space available. There is insufficient width to accommodate such turns, so that multiple maneuvers will be required, which will again obstruct the flow of traffic.