FINAL
SUPPLEMENT TO THE
SANTA BARBARA MUNICIPAL AIRPORT
INDUSTRIAL/COMMERCIAL SPECIFIC PLAN
FINAL ENVIRONMENTAL IMPACT REPORT/ASSESSMENT
(SCH# 93081127)

FOR THE

SANTA BARBARA AIRPORT GATEWAY CENTER

6100 HOLLISTER AVENUE, ENV97-0573

Prepared by

City of Santa Barbara
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July 1999

TABLE OF CONTENTS

INTRODUCTION 3

PROJECT DESCRIPTION 4

ENVIRONMENTAL SETTING 6

DISCUSSION OF PROJECT IMPACTS ON AIR QUALITY 9

CHANGES TO MITIGATION MEASURES 12

ALTERNATIVES 13

CONCLUSION 14

RESPONSE TO COMMENTS 15

COMMENT LETTERS ..... Following Page 26

FIGURES

Vicinity Map 7

Site Plan 8

TABLES

Table 1- Vehicle and Energy Consumption Emissions from the Specific Plan Economic Development Scenario- 2010 Buildout (1997 FEIR/EA Estimates) 9

Table 2- Vehicle and Energy Consumption Emissions from the Specific Plan Economic Development Scenario- 2010 Buildout (1998 URBEMIS 7G/EMFAC 7G Estimates) 10

Table 3- Net Mitigated Vehicle and Energy Consumption Emissions from the proposed Airport Gateway Center Project (1998 URBEMIS 7G/EMFAC 7G Estimates) 11

APPENDICES

1. Initial Study ENV97-0573
2. URBEMIS 5 Model Run- 1997 Airport Gateway Center Site- Existing Conditions
3. URBEMIS 5 Model Run- 2005 Airport Gateway Center Project Buildout
4. URBEMIS 7G Model Run- 1997 Airport Gateway Center Site- Existing Conditions
5. URBEMIS 7G Model Run- 2005 Airport Gateway Center Project Buildout
6. URBEMIS 7G Model Run- 2010 Airport Specific Plan Buildout
7. Emissions Estimates for Airport Gateway Center Project Site- 1997 Existing Conditions and 2005 Project Buildout
8. Comparison of URBEMIS 5 and 7G Model Runs for Airport Specific Plan and Airport Gateway Center
9. Distribution List for Draft Supplemental EIR

INTRODUCTION

Section 15163 of the California Environmental Quality Act Guidelines allows for a Supplemental EIR to be prepared in lieu of a Subsequent EIR for a project in which "new information of substantial importance, which was not known and could not be known with the exercise of reasonable diligence at the time the previous EIR was adopted, shows...(that) significant effects previously examined will be substantially more severe than shown in the previous EIR."

The Airport Specific Plan Final Environmental Impact Report/Assessment (FEIR/EA) was certified in July 1997, and the Specific Plan was adopted in October 1997. The FEIR/EA was a program EIR which identified impacts and mitigation measures associated with the anticipated buildout of the commercial and industrial area on the north side of the Santa Barbara Municipal Airport. The FEIR/EA looked at two major scenarios for development- a 160,000 sq. ft. increase in new development (Base scenario), and a 240,000 sq. ft. increase in new development, also known as the "Economic Development" scenario.

The 225-acre Specific Plan area is currently occupied by approximately 120 tenants in 701,099 sq. ft. of building space. The adopted Specific Plan incorporated the Economic Development Scenario from the FEIR/EA. The Plan includes the demolition and replacement of up to 172,000 sq. ft. of existing development. The Plan also includes up to 240,000 sq. ft. of new development, including 80,000 sq. ft. of Economic Development square footage as defined under City Charter Section 1508. The proposed Airport Gateway Center project proposes to use the total 80,000 sq. ft. allowed by the Specific Plan for Economic Development. The proposed Airport Gateway Center project was not specifically addressed in the FEIR/EA; however, the buildout of the Specific Plan Economic Development Scenario did account for the 180,000 sq. ft. included in the proposed project.

The FEIR/EA concluded that the buildout of both the Base scenario and the Economic Development scenario would have a significant, unavoidable impact on a number of environmental issue areas including air quality. The FEIR/EA estimated vehicular traffic emissions from Specific Plan buildout using EMFAC 7F emission factors and URBEMIS 5 vehicle trip characteristics from the State of California Air Resources Board (ARB). The ARB released updated versions of EMFAC (7G) and URBEMIS (7G) in 1998. The Santa Barbara County Air Pollution Control District (APCD) requires the use of this new information in reviewing air quality impacts of new projects. The use of URBEMIS 7G, in review of the proposed Airport Gateway Center, creates an inconsistent comparison with the air quality analysis completed in the Specific Plan FEIR/EA, certified in 1997. Therefore, since additional information for determining air quality impacts has become available following certification of the Specific Plan FEIR/EA, this Supplemental EIR has been prepared, focused on air quality issues.

The Initial Study prepared for the project (Appendix A) concluded that the proposed Airport Gateway Center would not have any other significant impacts beyond those identified in the

FEIR/EA. The FEIR/EA is incorporated by reference into this Supplemental EIR, and is available for public review at the City of Santa Barbara Community Development Department, 630 Garden Street, Santa Barbara, CA 93012-1990.

APPLICANT AND PROPERTY OWNER NAME AND ADDRESS

Property Owner:

City of Santa Barbara
Airport Department
601 Norman Firestone Road
Santa Barbara, CA 93117

Applicant:

Bermant Development Company
5383 Hollister Ave., Suite 150
Santa Barbara, CA 93111

PROJECT ADDRESS AND LOCATION

6100 Hollister Avenue, between David Love Place and Fredric Lopez Road, City of Santa Barbara

PROJECT DESCRIPTION

The project site is located at 6100 Hollister Avenue, a 15-acre parcel located south of Francis Botello Road, between David Love Place and Frederic Lopez Road. The proposed project is a 180,000 sq. ft. mixed-use industrial and commercial development, including 160,000 sq. ft. of office and R&D space, and 20,000 sq. ft. of retail space. The office and R&D space is proposed to be occupied by Miravant Medical Technologies, and is located in four interconnected one and two-story buildings in the center of the site, surrounding a central plaza. The 20,000 sq. ft. of retail space is located within two buildings approximately 10,000 sq. ft. each, located on the two southern corners of the property along Hollister Avenue at David Love Place and Frederic Lopez Road. This retail space is anticipated to include approximately 12,500 sq. ft. of specialty retail uses, and approximately 7,500 sq. ft. of high turnover restaurant use. The project site is adjacent to the existing one-acre Love Commons (a.k.a. Robert Park), located at the northwest corner of the site. The project proposes an additional recreation area adjacent to the park, including a basketball and volleyball court.

A total of 465 parking spaces are provided in a surface parking area surrounding the main buildings, with space for an additional 55 spaces if needed in the future. The site is currently occupied by 51,746 sq. ft. of small commercial, industrial and open yard uses, which are in the process of being demolished. Many of these uses are being relocated to the vacant area north of Robert Kiester Place, adjacent to the railroad tracks. The project applicant also proposes to designate the 36-unit income-restricted Storke Ranch apartment project, currently under

construction in Goleta, as income-restricted housing to offset the demand for lower-income housing anticipated to be generated by the Airport Gateway Center project.

The proposed project includes pedestrian amenities and Transportation Demand Management (TDM) features including sidewalk connections around the project site and walkways between buildings on the project site, secure bicycle parking facilities, and preferential carpool/vanpool parking. The FEIR/EA requires that individual new developments within the Specific plan area prepare a TDM plan for the new development. The plan for the proposed Airport Gateway Center project will be required to incorporate additional employee rideshare incentives including subsidies for employee transit passes.

The project site will also be served by the proposed shuttle route connecting Old Town Goleta with the Hollister Avenue Industrial Corridor west of the Airport. The shuttle is currently programmed into the 1997 Goleta Transportation Improvement Program.

The discretionary applications for the proposed Airport Gateway Center project are:

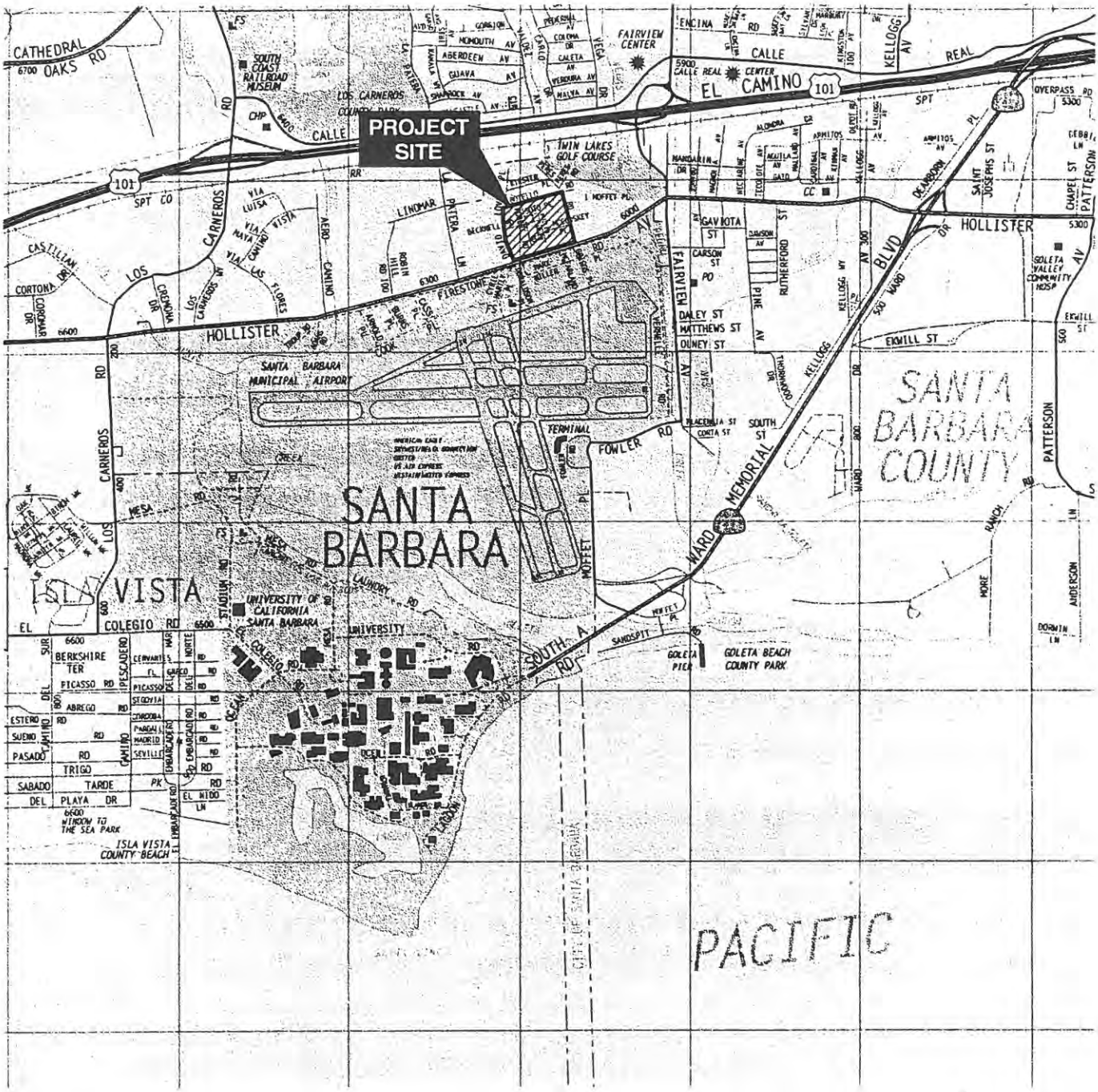
1. A Development Plan to allow for the construction of 180,000 sq. ft. of non-residential development (SBMC Sec. 28.87.300); and

2. A Modification (SBMC Sec. 28.92.026(1)) to allow for less than the 528 parking spaces required by code for the project.

ENVIRONMENTAL SETTING

The project site is approximately 15 acres in size and is currently occupied by 51,746 sq. ft. of miscellaneous commercial, light industrial and warehouse uses, which are in the process of being demolished. The site is essentially level, with an average slope of less than one percent. The surrounding properties are a mix of industrial and commercial uses, including miscellaneous industrial and open yard uses to the north, the Santa Barbara Municipal Airport to the south, a movie theater to the east, and miscellaneous office and commercial uses to the west. Minimal vegetation currently exists on the site.

Assessor's Parcel Number:	73-080-36
Parcel Size:	15 acres
Current Zoning:	A-I-1/A-I-2-Airport Industrial 1 and 2
Airport Specific Plan Designation:	Industrial
Existing Use:	51,746 sq. ft. of misc. commercial, light industrial and warehouse uses
Proposed Use:	180,000 sq. ft. office/industrial complex, incl. 20,000 sq. ft. of retail uses.
Slope:	Less than one percent
Surrounding Land Uses	North: Industrial/open yard uses South: Airport East: Movie Theater West: Office, commercial



NORTH

0 1200 2400

FEET

VICINITY MAP

Santa Barbara Gateway Center

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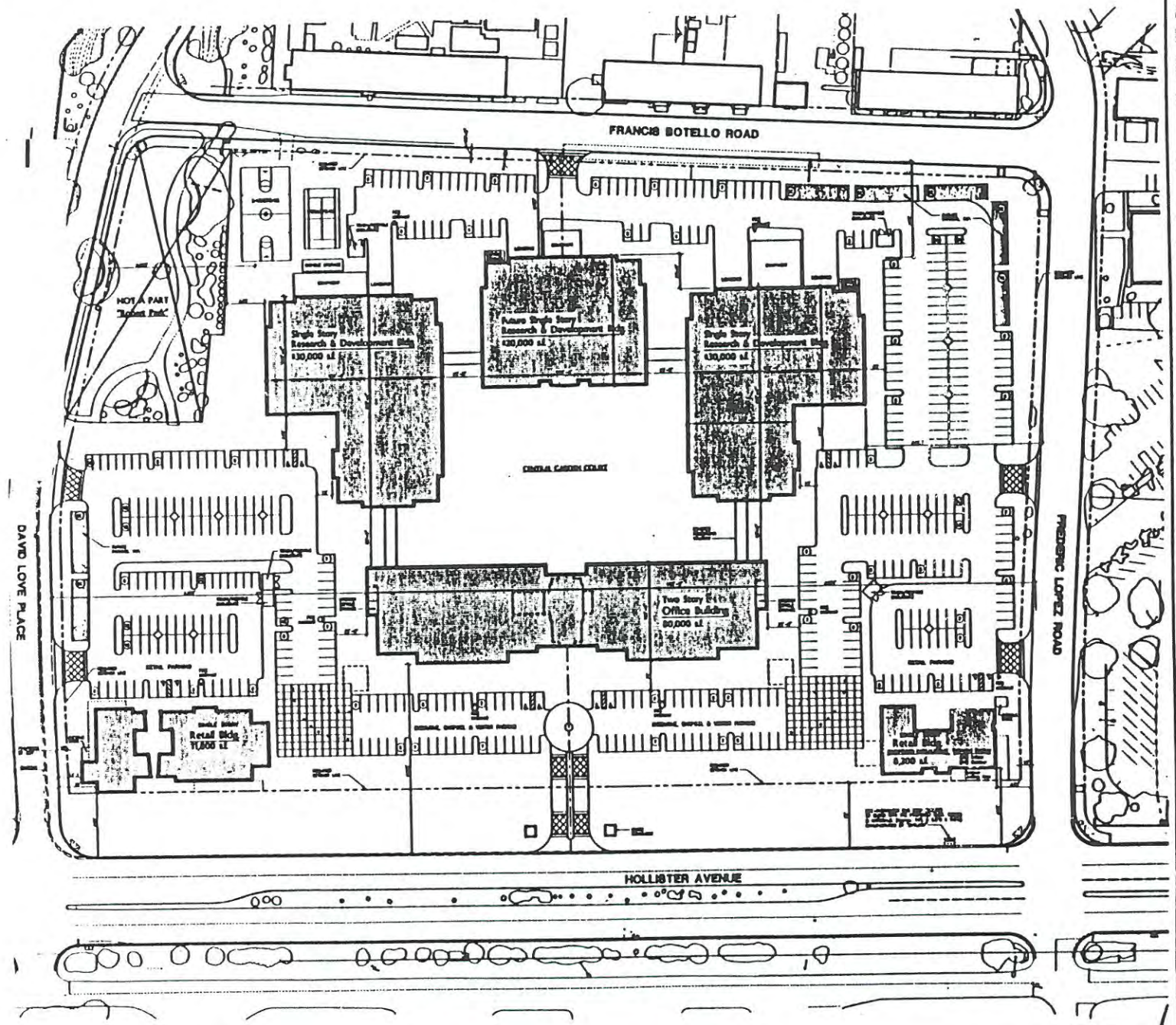


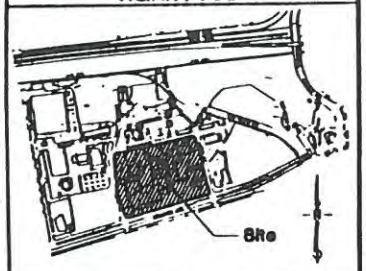
MASTER PLAN

SCALE: 1" = 40'

PROJECT DATA

[illegible]

VICINITY MAP



P K

A Redevelopment Project

Santa Barbara Gateway Center

City of Santa Barbara

A Proposal of BERMANT DEVELOPMENT

SCHEME 2

98-075.00

1" = 40'

PD-1A

DISCUSSION OF PROJECT IMPACTS ON AIR QUALITY

The Specific Plan FEIR/EA identified emissions from buildout of the Specific Plan Economic Development scenario as identified in Table 1 below. This Supplemental EIR focuses on the Economic Development scenario because it represents the maximum allowable development allowable as adopted in the Specific Plan, and the proposed project was developed under this scenario.

Total Reactive Organic Gas (ROG) emissions for the Economic Development scenario were estimated to be 47.56 lbs./day and Nitrogen Dioxide (NO_x) emissions were estimated to be 198.20 lbs./day. Because these total emissions exceed the APCD threshold of significance of 25 lbs./day for ROG or NO_x emissions, the Specific Plan was found to have a significant, unavoidable impact on air quality.

The FEIR/EA estimated vehicular traffic emissions from Specific Plan buildout using EMFAC 7F emission factors and URBEMIS 5 vehicle trip characteristics from the State of California Air Resources Board (ARB). Using this same methodology, the proposed Airport Gateway Center was predicted to create emissions of 6.2 lbs./day of ROG and 6.95 lbs./day of NO_x. These emissions are within the FEIR/EA estimates for the Specific Plan Area.

Table 1- Vehicle and Energy Consumption Emissions from the Specific Plan Economic Development Scenario- 2010 Buildout
1997 FEIR/EA ESTIMATES

	TONS PER YEAR				
SOURCE	**ROG**	**NOx**	**CO**	**SOx**	**PM10**
On-Road Vehicles	8.70	34.90	112.10	0.00	7.01
Energy Consumption	0.01	1.30	0.22	0.00	0.04
TONS/YEAR	**8.71**	**36.20**	**112.32**	**0.00**	**7.05**
	POUNDS PER DAY				
SOURCE	**ROG**	**NOx**	**CO**	**SOx**	**PM10**
On-Road Vehicles	47.50	191.10	614.10	0.00	38.20
Energy Consumption	0.06	7.10	1.25	0.00	.24
POUNDS/DAY	47.56	198.20	615.35	0.00	38.44

SOURCE: Airport Specific Plan FEIR/EA, Tables 3.9-4 and 3.9-5

However, the ARB released updated versions of EMFAC (7G) and URBEMIS (7G) in 1998, and the Santa Barbara County Air Pollution Control District (APCD) requires the use of this new information and methodology in reviewing air quality impacts of new projects.

The use of URBEMIS 7G in review of the proposed Airport Gateway Center creates an inconsistent comparison with the air quality analysis completed in the Specific Plan FEIR/EA,

certified in 1997. Therefore, this Supplemental EIR re-evaluates the air quality impacts of buildout of the Specific Plan Economic Development scenario in order to provide an updated framework for review of future development within the Specific Plan area, including the proposed Airport Gateway Center project.

Using the updated methodology, along with input assumptions from the FEIR/EA, the buildout of the Airport Specific Plan Economic Development scenario is anticipated to create emissions of 78.80 lbs./day of ROG and 217.16 lbs./day of NO_x, as outlined in Table 2 below. These emissions exceed the 25 lbs./day APCD threshold of significance of for ROG or NO_x emissions. **Therefore, the buildout of the Specific Plan Economic Development scenario is anticipated to have a significant impact.**

Table 2- Vehicle and Energy Consumption Emissions from the Specific Plan Economic Development Scenario- 2010 Buildout
1998 URBEMIS 7G/EMFAC 7G ESTIMATES

	TONS PER YEAR				
SOURCE	**ROG**	**NOx**	**CO**	**SOx**	**PM10**
On-Road Vehicles	15.94	39.20	161.85	0.00	1.49
Energy Consumption (1)	0.01	1.30	0.22	0.00	0.04
TONS/YEAR	**15.95**	**40.50**	**162.07**	**0.00**	**1.53**
	POUNDS PER DAY				
SOURCE	**ROG**	**NOx**	**CO**	**SOx**	**PM10**
On-Road Vehicles	78.74	210.06	809.61	0.00	8.17
Energy Consumption (1)	0.06	7.10	1.25	0.00	.24
POUNDS/DAY	**78.80**	**217.16**	**810.86**	**0.00**	**8.41**

SOURCE: City of Santa Barbara Planning Division, URBEMIS7G
(1) Energy consumption figures from FEIR/EA based on South Coast AQMD 1993 CEQA Handbook, and have not changed since FEIR/EA.

The Specific Plan FEIR/EA outlines mitigation measures to reduce potential air quality impacts; however, the FEIR/EA also indicates that these measures are not anticipated to reduce impacts to a less than significant level. **Therefore, buildout of the Specific Plan Economic Development scenario is anticipated to have a significant, unavoidable impact on air quality. The FEIR/EA also concluded that ROG and NO_x emissions from the Specific Plan Economic Development scenario would contribute to a significant, unavoidable cumulative air quality impact.** The updated estimates of emissions using the URBEMIS 7G methodology do not change these conclusions.

The proposed Airport Gateway Center is anticipated to create net emissions of 35.06 lbs./day of ROG and 73.09 lbs./day of NO_x, as outlined in Table 3 below (Estimated mitigated emissions associated with existing uses on site and the gross emissions associated with the proposed Airport

Gateway Center project are outlined in Appendix 7). These emissions are within the limits of emissions identified for the Airport Specific Plan buildout outlined in Table 2. These emissions exceed the APCD significance threshold for ROG and NOx. **The proposed project will therefore have a significant, unavoidable impact on Air Quality.**

As noted above, the FEIR/EA also concluded that ROG and NO_x emissions from the Specific Plan Economic Development scenario would contribute to a significant, unavoidable cumulative air quality impact. As the proposed project will use the 80,000 sq. ft. allocated for the Economic Development Scenario, the proposed project will therefore also contribute to a significant, unavoidable cumulative air quality impact.

These conclusions are consistent with the Air Quality impact findings of the FEIR/EA for the Santa Barbara Municipal Airport Industrial/Commercial Specific Plan (Airport Specific Plan). The FEIR/EA determined that implementation of the Airport Specific Plan would result in a significant, unavoidable impact to Air Quality. The project specific Air Quality impact described above does not result in a new significant Air Quality impact or a substantial increase in the severity of the identified Air Quality impact identified in this Supplemental EIR for the buildout of the Specific Plan 2010 Economic Development Scenario.

The FEIR/EA also reviewed the potential for Specific Plan related traffic to create CO "hot spots." The peak hour trips associated with the Specific Plan were determined to be less than 800. The EIR concluded that, based on this significance threshold, the Specific Plan would not contribute to an exceedance of the one-hour state CO standard and that ambient impacts from project traffic would, therefore, be insignificant. The number of trips associated with the Specific Plan has not changed for purposes of this Supplemental EIR; therefore, the conclusions related to CO impacts remain as discussed in the FEIR/EA.

Table 3- Net Mitigated Vehicle and Energy Consumption Emissions from the proposed Airport Gateway Center Project
1998 URBEMIS 7G/EMFAC 7G ESTIMATES

	TONS PER YEAR				
SOURCE	**ROG**	**NOx**	**CO**	**SOx**	**PM10**
On-Road Vehicles	7.12	12.98	57.14	0.00	0.39
Energy Consumption	(-0.001)	.65	.115	0.00	0.03
TONS/YEAR	**7.12**	**13.63**	**57.25**	**0.00**	**0.42**
	POUNDS PER DAY				
SOURCE	**ROG**	**NOx**	**CO**	**SOx**	**PM10**
On-Road Vehicles	35.03	69.51	285.48	0.00	2.22
Energy Consumption	0.03	3.58	0.62	0.00	0.12
POUNDS PER DAY	**35.06**	**73.09**	**286.10**	**0.00**	**2.24**

SOURCE: City of Santa Barbara Planning Division, URBEMIS7G

CHANGES TO MITIGATION MEASURES

As discussed above, the Specific Plan FEIR/EA outlines mitigation measures to reduce potential air quality impacts. These mitigation measures include Air Quality Mitigation 3.9-9 and **Ground Transportation Mitigation 3.20-1**, which outline alternative transportation measures for the Specific Plan area. Based on input from the Air Pollution Control District, this measure has been refined as follows (changes outlined in underline and strikeout type):

> **Air Quality Mitigation 3.9-9** Encourage the use of alternative transportation modes by employees of businesses and other facilities within the Specific Plan area. If and when a Goleta Valley alternative transportation program is developed to reduce traffic and/or air quality impacts which applies to all existing and future businesses in the Valley, provisions shall be incorporated into leases that would require that the program apply to all new businesses in the Specific Plan area. Include a clause in all leases that allows the lease to be reopened if such a program is adopted after the lease is approved so that existing businesses would also participate in the regional program. <u>All new development within the Specific Plan area which involves additional square footage shall be required to develop a Transportation Demand Management Program that will reduce traffic demand, especially during the peak hour and encourage employees to use alternative modes of transportation including, but not limited to, car and van pools, bus passes, and bicycles.</u>
>
> **Ground Transportation Mitigation 3.20-1** Individual developments within the planning area shall be reviewed upon permit application to tailor a TDM plan for the development. Measures targeting employees shall include provision of bicycle lockers and showers in the new developments, lunchrooms, preferential parking for carpools, free bus passes, etc. TDM plans would be developed by each <u>new</u> development pursuant to the existing City/County TDM program. ~~This program is voluntary and future tenants within the Specific Plan area would have the choice to participate or not participate.~~

These measures would be applied as conditions of approval for the Santa Barbara Gateway Center and other projects within the Specific Plan area per CEQA Guidelines enforceability criteria and would be subject to adopted mitigation monitoring provisions.

ALTERNATIVES

The basic objective of the proposed project is to provide a high-tech research and development/industrial campus to enhance the economic development of the Airport Specific Plan. CEQA requires an EIR to discuss a reasonable range of alternatives to the proposed project which could feasibly attain the project objectives. The State CEQA Guidelines state that this discussion should focus on alternatives which might eliminate any significant adverse environmental impacts or reduce them to a level of insignificance. The following is a discussion of such potential alternatives.

No Project: No development of the proposed Airport Gateway Center would avoid the additional air quality impacts associated with the proposed project. However, the FEIR/EA evaluated a no-project alternative for the Specific Plan, which projected future development without the structure of a Specific Plan. The FEIR/EA concluded that the no-project alternative would create an unavoidable significant impact by exceeding the APCD daily threshold of 25 lbs./day of ROG and NO_x. A no-project alternative for the Airport Gateway Center would, therefore, also create a significant unavoidable air quality impact and might not allow for the implementation of the economic development goals of the Specific Plan.

Alternative project site: As air quality is a regional issue, and the FEIR/EA has identified an existing significant unavoidable air quality impact, relocation of the project site would not change the anticipated project impacts. However, for purposes of this analysis, staff reviewed other vacant parcels similar in size to the 15-acre project site within the Airport Area. Several large parcels exist south of Hollister Avenue; however, the proposed development would conflict with the Airport Runway Safety Area height restrictions. In addition, the Specific Plan designates this portion of the Specific Plan for more aviation-related uses. No other sites similar in size are available north of Hollister Avenue. Large industrial parcels are available in other parts of the City, including the industrial area around Salsipuedes Street; however, this area is focused more on heavy industrial uses rather than the high tech research and development uses associated with the proposed project. In addition, locating the proposed project outside of the Airport Area would not allow for the implementation of the economic development goals of the Specific Plan for the Airport area.

Reduced project size: The proposed project meets all required development standards for building size, height, and setbacks. Reduction of the size of the proposed project would not substantially decrease impacts already identified in the FEIR/EA as significant and unavoidable. The FEIR/EA notes that in order to reduce air quality impacts from the Specific Plan to a less than significant level, development within the Specific Plan area would need to be restricted to a maximum of 22,990 square feet. Such a restriction would preclude development of the proposed 180,000 sq. ft. project.

CONCLUSION

The Airport Specific Plan FEIR/EA as updated by this Supplement and Initial Study demonstrates that the proposed Airport Gateway Center project at 6100 Hollister Avenue does not increase the significant impacts identified and certified in the originally EIR. The project contributes to an existing significant air quality impact which has been previously described in the Airport Specific Plan FEIR/EA. As discussed in the Initial Study prepared for the project, the proposed project contributes to cumulative impacts on schools, solid waste, and traffic previously identified in the FEIR/EA. All other potential impacts from the project have been determined to be less than significant or can be mitigated to a less than significant level.

As discussed in the Initial Study (Exhibit A), the proposed project is consistent with the Clean Air Plan (CAP). Both the Specific Plan buildout and the proposed Airport Gateway Center project were accounted for in the land use and population projections provided by the Santa Barbara County Association of Governments and Air Resources Board on-road emissions forecast as a basis for vehicle emission forecasting.

RESPONSES TO COMMENTS

The comment period for the Draft Supplemental EIR was from February 5, 1999 to March 22, 1999. Ten copies of the Draft Supplemental EIR were sent to the State Clearinghouse, Office of Planning and Research. Six letters were received on the Draft Supplemental EIR, as follows:

1. Sandy Hesnard, CalTrans Aeronautics Program, February 18, 1999
2. Vijaya Jammalamadaka, Santa Barbara County Air Pollution Control District, March 4, 1999
3. Brian Trautwein, Environmental Defense Center, March 4, 1999
4. Karen Ramsdell, City of Santa Barbara Airport Director, March 22, 1999
5. Dan Gira, Santa Barbara County Planning and Development Department, March 22, 1999
6. Terry Roberts, State Clearinghouse, Office of Planning and Research, March 30, 1999

In addition to the letters received, the Planning Commission made comments at the public hearing on the Draft Supplemental EIR on March 11, 1999. Responses to their comments have also been included.

Response to Comments from Sandy Hesnard, CalTrans Aeronautics Program, February 18, 1999

COMMENT #	RESPONSE
1-1	The project will not penetrate any Federal Aviation Regulations Part 77 transitional or approach surfaces.

Response to Comments from Vijaya Jammalamadaka, Santa Barbara County Air Pollution Control District, March 4, 1999

COMMENT # RESPONSE

2-1 The following mitigation measures have been revised to read as follows:

> Air Quality Mitigation 3.9-9 Encourage the use of alternative transportation modes by employees of businesses and other facilities within the Specific Plan area. If and when a Goleta Valley alternative transportation program is developed to reduce traffic and/or air quality impacts which applies to all existing and future businesses in the Valley, provisions shall be incorporated into leases that would require that the program apply to all new businesses in the Specific Plan area. Include a clause in all leases that allows the lease to be reopened if such a program is adopted after the lease is approved so that existing businesses would also participate in the regional program. <u>All new development within the Specific Plan area which involves additional square footage shall be required to develop a Transportation Demand Management Program that will reduce traffic demand, especially during the peak hour and encourage employees to use alternative modes of transportation including, but not limited to, car and van pools, bus passes, and bicycles.</u>
>
> Ground Transportation Mitigation 3.20-1 Individual developments within the planning area shall be reviewed upon permit application to tailor a TDM plan for the development. Measures targeting employees shall include provision of bicycle lockers and showers in the new developments, lunchrooms, preferential parking for carpools, free bus passes, etc. TDM plans would be developed by each <u>new</u> development pursuant to the existing City/County TDM program. ~~This program is voluntary and future tenants within the Specific Plan area would have the choice to participate or not participate.~~

These measures would be applied as conditions of approval per CEQA Guidelines enforceability criteria and would be subject to adopted mitigation monitoring provisions.

2-2 The Specific Plan calls for the payment of $240,000 to offset air quality impacts for all new development within the Plan area, as follows:

> ***Policy AM2: Encourage the use of alternative transportation modes by businesses within the Specific Plan area (MM 3.9-9).***

Action AM2.3: In addition to the above measures, the Airport shall pay an air pollution offsite mitigation fee of $240,000, payable to the Santa Barbara County Air Pollution Control District (APCD), designated for use in support of reduction of emissions for one of the following purposes:

a. Inclusion in matching funds necessary to receive a government grant for the purchase of new low emissions buses, such as the Clean Air Express or electric shuttles proposed for Goleta; or

b. Inclusion in funds for direct purchase of the above vehicles; or

c. Retrofitting of diesel-powered engines in buses, boats, agricultural equipment or other machinery; or

d. Such other purposes which would result in reduction of air emissions by the APCD, in consultation with the City of Santa Barbara.

The payment shall be made over a period of three years, commencing with the issuance of a building permit for any project which involves more than 5,000 square feet of net new development.

This project will be the first project involving more than 5,000 square feet of net new development and will, therefore, trigger the payment of these fees.

Response to Comments from Brian Trautwein, Environmental Defense Center, March 4, 1999

COMMENT #	RESPONSE
3-1	Water quality and biological impacts are reduced to less than significance by the inclusion of the required mitigation measures listed under Biological Resources and Water Resources in the Initial Study, as identified previously in the Specific Plan EIR/EA. Additional measures, such as creation of a bio-swale, may be considered as part of further project review at the Planning Commission.
3-2	Best Management Practices have been incorporated into the project. They are defined in more detail in the Conditions of Approval for the project and include periodic cleaning of the parking lot to further reduce water quality and biological resources impacts.
3-3	There is no evidence in the record that there will be a significant environmental effect that justifies the inclusion of landscaping requirements as part of the environmental review process. However, Recommended Mitigation Measure BIO-1 will be refined to specify that the landscaping plan be based on plants native to the South Coast of Santa Barbara to ensure compatibility with the surrounding sensitive ecology.
3-4	Construction equipment and materials mitigation measures meet all requirements established by the Santa Barbara County Air Pollution Control District. See Response to Comment 2-2 regarding payment of offsite offset fees. Please note that these fees are intended to be used for programs that result in long-term reductions in emissions.
3-5	Areas within the City are not subject to County policies or development fees. The Specific Plan EIR/EA includes an analysis of the project's compatibility with County policies. Regarding development fees, projects at the Airport may have a significant impact on a particular resource within the County. If a significant impact on a particular resource is determined to be mitigable only through payment of a particular fee, the City or applicant may choose to mitigate the impact through payment of said fee. The Initial Study and Supplemental EIR do not identify any impacts other than transportation that might call for payment of a County fee as mitigation. The City Police Department provides police service to the project site. The County Sheriff may provide a mutual aid response if requested to do so by the City Police Department. Airport tenants are assessed a Possessory Interest Tax (similar to Property Tax) based on their lease on Airport property. A portion of this assessment is for participation in the County Fire Protection District. This project will be subject to the same assessment. The project includes the provision

of recreational space (basketball and volleyball courts) for project employees. In addition, the project applicant is proposing to re-landscape the existing Love Commons park space adjacent to the project so that it is more usable and is better integrated with the new space. There is no evidence that the proposed project would result in significant impacts that would warrant payment of fees for parks, libraries, or County administration facilities. Regarding school fees, City projects pay the same school fees at the time of new construction as do County projects. Until area school districts formally declare that they are overcrowded under the Government Code, no additional fees or contributions can be required of developers to offset school impacts. The City of Santa Barbara is participating, with other affected agencies, in developing solutions for Tajiguas Landfill's capacity problems. In the meantime, these impacts may be overridden if the appropriate statement of overriding considerations is made by the decision-maker.

3-6 Reduction of the project size by 10% would not result in a reduction of project traffic impacts to less than significant levels. The County's policies were analyzed in the EIR/ EA to which this document is a Supplement. Cumulative development allowed under the Goleta Growth Management Ordinance amendments in February 1999 for the next 10 years includes up to one million square feet of nonresidential development. This does not include any additional housing that could be developed. In addition, this does not include 1,300 residential units and 1.1 million square feet of nonresidential development that have already approved, some of which is under construction. The Airport Gateway Center Project involves a 180,000 square foot project with a net increase of 128,250 square feet. All identified feasible traffic mitigation measures would be applied to the project to reduce impacts to the extent feasible. The reduced project alternative has not been determined feasible in that it would not adequately meet project economic objectives, and would not substantially reduce identified significant impacts.

Response to Comments by Karen Ramsdell, City of Santa Barbara Airport Director, March 22, 1999

COMMENT #	RESPONSE
4-1	Comment acknowledged.

Response to Comments by Dan Gira, Santa Barbara County Planning and Development Department, March 22, 1999

COMMENT # RESPONSE

5-1 There is no substantial evidence in the record that the design of the Airport Gateway Center project would result in a significant aesthetic/visual resources impact. The basis for the Airport architecture is the Airline Terminal. The Airline Terminal, built in 1942, is designed in the Spanish Colonial Revival architectural style and is eligible for City Landmark designation. As a part of the Goleta Valley for 57 years, it must be considered an important piece of the Valley's heritage.

The Santa Barbara Airport Design Guidelines were originally developed in 1986, amended in 1991 and adopted by the City of Santa Barbara as part of the Airport Local Coastal Plan Implementation package that same year. At that time, the architectural style was established based on new development having its roots in the Spanish/Mediterranean style as it has evolved in Santa Barbara.

The Draft Santa Barbara Airport Industrial Area Specific Plan included changes in the building design approach, calling for a very modern industrial architectural style. Because of concerns expressed by the Airport Commission that this style of architecture was inconsistent with past practices and incompatible with the Goleta area, the City Council deleted the discussion of architectural style changes from the Specific Plan and asked that the Architectural Board of Review (ABR), Airport Commission and Planning Commission re-evaluate the Guidelines.

Based on the City Council action noted above, there was substantial discussion at the ABR about how the architecture should fit within the Valley. The ABR referenced several recent and pending projects in the Goleta Valley that are more Spanish/Mediterranean in approach, including the remodeling of the Calle Real Shopping Center, the recently approved and partially completed Camino Real Marketplace and the Circon building. Recently built Airport structures also have their roots in Spanish/Mediterranean design, but are not traditional, as is Santa Barbara's downtown. These include the Aircraft Rescue and Firefighting Station and the new Air Traffic Control Tower. Only the area immediately around the Airline terminal will be required to adhere to the more traditional architectural styles found in Downtown Santa Barbara. This requirement is intended to support and enhance the architecture of the historic Airline Terminal.

Parking has not been placed at the rear of the property because all of the property faces on surrounding streets. The Architectural Board of Review has worked with the applicant's architects to develop an appropriate project design that includes significant landscaping, including a minimum 60 foot setback on the Hollister

Avenue side of the property (due primarily to utility easements). Within the setback are detention basins surrounded by berms and landscaping that effectively hide the parking from Hollister Avenue.

Finally, the Airport is not in the Old Town Goleta Revitalization Plan area. There is a clear transition in land use and design between the Old Town area and the Airport, enhanced by the presence of San Pedro Creek. Extending the design requirements outside of the Old Town area may actually serve to dilute its identity. Just as the Calle Real Shopping Center has established its own identity with its recent remodeling, so to will Old Town as new development occurs and existing buildings are redeveloped.

5-2 The City of Santa Barbara, as part of its negotiations with the County to establish appropriate traffic mitigation, will consider an appropriate method for participation in the establishment of an area-wide shuttle service, as acknowledged by the Airport Industrial Area Specific Plan. Regarding transportation demand management, see Response to Comment 2-1.

5-3 There is no substantial evidence on the record to support a finding that the project would result in significant impacts on biological resources. Based on the design of the proposed detention basin, it is expected that run-off to the Goleta Slough will be decreased rather than increased. See Response to Comments 3-1 and 3-2.

5-4 See Response to Comment 3-5. In addition, recreation impacts of the entire Specific Plan area have been addressed through the designation of certain portions of the Specific Plan for recreational uses.

5-5 As noted above, the Developer will be required to develop a Transportation Demand Management Program which will assist in reducing both traffic and air quality impacts.

Since the adoption of the Airport Specific Plan in 1997, the City has been negotiating an agreement for payment of the GTIP fee for projects within the City's jurisdiction. At the time of Specific Plan adoption, the contribution for the entire Airport Specific Plan buildout was estimated to be approximately $3.2 million. Under the proposed fee structure, this amount would increase by 274 percent to approximately $8.9 million. The City is continuing its discussions with the County regarding appropriate traffic mitigation measures for the Specific Plan area.

Under the 1997 GTIP fee structure, the proposed Airport Gateway Center project is estimated to be approximately $1.3 million. Under the proposed 1999 GTIP fee structure, the estimated fee would be approximately $4.3 million (Exhibit H, GTIP fees for Airport Specific Plan).

As discussed in the Initial Study, the proposed project is anticipated to contribute to a traffic impact already identified as significant and unavoidable in the Specific Plan EIR/EA. The Initial Study also concluded that these project-specific impacts did not increase the severity of traffic impacts identified within the Specific Plan EIR/EA. The City believes that, for the proposed Airport Gateway Center project, a finding may be made regarding implementation of certain mitigation measures outside the City's jurisdiction, pursuant to CEQA Guidelines Section 15091. Section 15091 allows an agency to exclude mitigation measures when the agency finds that required "changes or alterations [to a project] are within the responsibility and jurisdiction of another public agency, and not the agency making the finding." The proposed GTIP improvements, which would partially mitigate project impacts, are identified in the Specific Plan EIR/EA and are within the jurisdiction of the County. However, in the interest of being a good neighbor, it is the City's intent that the proposed project implement its proportional share of traffic mitigation. Based on the formula of $4,564 for each of the 287 p.m. peak hour trips generated by the project (the fee proposed by the City, based on discussions with County Public Works and Planning and Development Staff, during the Specific Plan adoption process), the proposed project would be required to pay a total of $1,309,868. This amount would be paid by the applicant towards implementation of specifically identified transportation improvements in the area including, but not limited to roadway and freeway intersection improvements, bikeways, and shuttle acquisitions and operations.

Response to Comments from Terry Roberts, State Clearinghouse, Office of Planning and Research, March 30, 1999

COMMENT #	RESPONSE
6-1	Receipt acknowledged.

Response to Comments by the Planning Commission at the March 11, 1999, Public Hearing on the Draft Supplemental EIR

COMMENT #	RESPONSE
PC-1	The submitted plans indicate that there would be 3,000 cubic yards (cy) of cut and 30,000 cy of fill. This would require a net import of 27,000 cy of fill. Assuming a dump truck capacity of 9 to 18 cy, it would take a total of 1,500 to 3,000 round trips to complete the necessary import. Based on an estimated grading schedule of sixty working 60 days, a total of 25 to 50 average daily trips are anticipated. The City has included a standard condition restricting construction traffic to non-peak hours. Staff therefore believes that this number of trips, which will be required to occur during non-peak hours, does not constitute a significant environmental impact. The applicant has indicated to staff that the amount of imported fill necessary may be reduced, but revised plans and calculations have not been submitted to support this reduction. Therefore, staff must continue to assume the worst case analysis presented here. The amount of demolition debris to be removed is not known at this time. The mitigation measures necessary to reduce the impacts of fill import and debris export are included in the Initial Study (Appendix 1 in both the Air Quality (p. 8) and Transportation/Circulation (p. 28) sections in the Supplemental EIR. These mitigation measures will be included in the Conditions of Approval. As discussed in the Preliminary Drainage Report attached to the Initial Study, all onsite drainage will be directed to two onsite detention basins. Drainage will then be directed to a storm drain crossing Hollister Avenue and draining to a swale between Hollister Avenue and Norman Firestone Road. This swale drains to the Goleta Slough. No drainage will be directed to San Pedro and Las Vegas Creeks. Therefore, this project will have no impacts on these creeks.
PC-2	These issues will generally be addressed in the Planning Commission Staff Report or at the public hearing as requested. Regarding the Transportation Demand Management Program, please see Response to Comment 2-1 for changes that would require implementation of this program. See Comment 3-5 regarding County fees, including traffic, recreation and other fees.

STATE OF CALIFORNIA--BUSINESS, TRANSPORTATION AND HOUSING AGENCY

GRAY DAVIS, Governor

DEPARTMENT OF TRANSPORTATION
AERONAUTICS PROGRAM M.S. #40
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FEB 23 1999

February 18, 1999

Mr. Bill Jacobs
City of Santa Barbara
Planning Division
P.O. Box 1990
Santa Barbara, CA 93102-1990

Dear Mr. Jacobs:

Re: *The City of Santa Barbara's Draft Supplement to the Santa Barbara Municipal Airport Industrial/Commercial Specific Plan Final EIR/Assessment (SCH# 93081127)*

The California Department of Transportation's Aeronautics Program has reviewed the above-referenced document with respect to the California Environmental Quality Act (CEQA). We commented on the draft EIR SCH# 93081127 on August 20, 1996. Assuming the project will not penetrate any Federal Aviation Regulations Part 77 transitional or approach surfaces, we have no comments to add at this time. 1-1

Thank you for the opportunity to review and comment on this proposal.

Sincerely,

SANDY HESNARD
Environmental Planner

c: Santa Barbara Municipal Airport, Santa Barbara County ALUC

Santa Barbara County
Air Pollution Control District

March 4, 1999

City of Santa Barbara
Planning Division
Attn: Bill Jacobs, Associate Planner
P.O. Box 1990
Santa Barbara, CA 93102-1990

RE: Santa Barbara Airport Gateway Center

Dear Bill:

The Santa Barbara County Air Pollution Control District (APCD) appreciates the opportunity to review and comment on the ***Draft Supplement to the Santa Barbara Municipal Airport Industrial /Commercial Specific Plan FEIR/EA*** for the above mentioned project.

Air quality impacts of this project are significant; therefore, the SEIR must include all feasible mitigation measures to reduce emissions. We would like to reiterate our Feb. 1, 1999 phone comments on the Administrative Draft document that Measure 3.9-9 on page 8 of the Initial Study does not meet the enforceability criteria for a mitigation measure under CEQA Section 15126.4 (a) (2) and cannot be expected to reduce emissions from this project. We recommend that the City revise this measure to make it mandatory (not voluntary) for future tenants to participate in an Alternative Transportation Program and/or the TDM plan listed under Measure 3.20-1 on page 28. 2-1

Air quality impacts may also be reduced or mitigated through the implementation of off-site emission reduction programs from existing near-by emission sources. Some examples of emission reduction programs that could be implemented are: an old car scrappage program, retrofitting transit and refuse fleets with low emission, alternative fuel engines, replacement of diesel-fired engines and boilers with low emissions, natural gas-fired units, retrofitting older natural gas–fired engines and boilers with clean burning technologies. The California Air Resources Board compiles data on the costs to purchase Emission Reduction Credits (ERCs), such as those derived from the above-described programs. For all ERC transactions that occurred in the State in 1997, the annual cost for NOx ERCs ranged from-$2,000 - $20,000/ton and the cost for ROC ERCs ranged from $400 - $25,000/ton. The average annual cost statewide for NOx ERCs in 1997 was $11,300/ton, and the average cost for ROC ERCs was $6,100/ton. The lowest annual cost per ton is $2,000/ton for NOx and $400/ton for ROG. Air quality impacts may also be partially reduced by funding and implementing programs that educate the public about ways individuals can reduce the emissions they generate. 2-2

Douglas W. Allard Air Pollution Control Officer
26 Castilian Drive B-23, Goleta, CA 93117 Fax: 805-961-8801 Phone: 805-961-8800

Since the net project emissions will occur over the lifetime of the project, in order to satisfy the requirements of CEQA, mitigation must be in place for the life of the project, i.e., ROG and NOx emissions above the threshold of significance must be fully reduced annually for the project lifetime to mitigate the total emissions of ozone precursors from this project to a level of insignificance.

The decision on whether partial or full mitigation of significant air quality impacts from this project is "feasible" (as defined in CEQA) must be made by the lead agency/decision-makers. If the City determines that partial or full mitigation of the significant air quality impacts of this project is feasible (perhaps in conjunction with reduced project size), please contact us to discuss possible options on the actual costs per year and availability of ERCs and air quality education opportunities in the Santa Barbara area.

Please contact me by phone at 961-8893, or by e-mail: *JammalamadakaV@sbcapcd.org* if you have questions.

Sincerely,

Vijaya Jammalamadaka

Vijaya Jammalamadaka, AICP
Air Quality Specialist
Technology and Environmental Assessment Division

cc: Project File (City of Santa Barbara: Airport Gateway Center Project)
Bobbie Bratz, Air Quality Specialist Supervisor, APCD
TEA Chron File

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March 4, 1999

City of Santa Barbara
Planning Division
Attn: Bill Jacobs,
Associate Planner
630 Garden Street
Santa Barbara, CA 93101

RE: SANTA BARBARA AIRPORT GATEWAY CENTER; DRAFT SUPPLEMENTAL EIR

Dear Mr. Jacobs:

The Environmental Defense Center (EDC), a non-profit environmental law firm, has reviewed the draft Supplemental EIR and initial study for the proposed Santa Barbara Airport Gateway Center Project. Thank you for providing a copy of the document for our review. Our comments regarding the Draft SEIR and our suggestions for improving the document and the project are summarized below.

WATER QUALITY AND BIOLOGICAL RESOURCES

Retention Basin Wetlands

Mitigation Measure BIO-1 is a very important measure to reduce the project's impacts to water quality and to biological resources. Existing conditions onsite include open space and a swale along Hollister Avenue. These features provide important functions, including foraging habitat for raptors and filtration of non-point source pollutants. The recommended measure (BIO-1) should be required to compensate for the planned loss of these resources and their functions. 3-1

The Goleta Slough Management Committee discussed this project with developer Jeff Bermant in May of 1998. The Committee, as noted in the Initial Study, provided comments to the developer and his representative. While these comments are characterized as "favorable" in the Initial Study, they were designed to be constructive, and in no way represented an endorsement of the project. One of the recommendations by the Committee was to turn the detention basin into bio-filters (constructed wetlands that filter water pollutants in addition to reducing flooding impacts.) EDC urges the City to require Measure BIO-1 as an effective way to reduce water pollution that will drain from the site to the wetland swale south of Hollister and to the Goleta Slough. The EPA, Regional Water Quality Control Board and Coastal Commission recognize runoff from paved parking areas to be a large source of non-point source pollution. These agencies also support the use of vegetated treatment systems, also known as constructed wetlands and bio-filters for reduction of non-point source pollution.

EDC recommends that the proposed wetland vegetation in the detention basin be propagated from locally collected wetland plant materials (such as those in the swale south of Hollister Avenue.) Other projects in Goleta are using bio-filters planted with locally collected high to

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medium uptake plants such as *juncus, distichilis, scirpus* and *typha* species. As an example, we refer to work being done at Camino Real Market Place, Cathedral Oaks Estates, and at UCSB. The attached report, prepared for the County and City as part of Project Clean Water, establishes the usefulness of these facilities for controlling water pollution.

Parking Lot Cleaning

Mitigation Measure 3.12-1 refers to "other Best Management Practices" that are appropriate for protecting surface water quality. One very effective measure that is relatively simple to implement is the sweeping, cleaning or vacuuming of streets and parking areas. In this case, the installation of parking areas for 465 - 520 vehicles will be a large, new source of pollutants. Types of pollution associated with parking areas include oil, grease, metals, rubber, litter, automotive fluids such as antifreeze, automotive transmission fluid and brake fluid (Final EIR for Toro Canyon School, Santa Barbara County, 1998.) Interceptors and traps for stormwater runoff should also be used, but are not very effective during high flow conditions when a significant amount of pollution is washed into nearby water ways. Cleaning the surface of this parking lot on a regular basis (perhaps weekly at night or in the early morning) would greatly reduce the quantity of these pollutants. In combination with traps, interceptors and bio-filters, parking lot cleaning will protect the ecologically valuable Goleta Slough wetlands. UCSB currently utilizes all of these measures as a way to comply with NPDES permit requirements to reduce water pollution. Therefore, we suggest that the City require the cleaning of the parking lot in a manner that will remove pollutants from the surface. 3-2

Landscaping

We support the use of native plants in the landscaping plan, as recommended by the Goleta Slough Management Committee. Specifically, the landscaping should include local native plants that are naturally occurring in this area. Reference to the GSMC's recommendations on page 9 of the initial study refers to "native" plants, but fails to specify that the recommendation was for plants native to the coastal Santa Barbara area. The City ABR should specify the use of locally occurring natives so that the project is more compatible with the surrounding and nearby environments of San Pedro and Los Carneros Creeks and the Goleta Slough. 3-3

AIR QUALITY

Project impacts can be further mitigated through the implementation of additional feasible measures. CEQA requires that unavoidable significant impacts be mitigated to the maximum extent feasible. Feasible mitigation measures exist which can offset some increases in project emissions. First, all emissions must be minimized. All equipment on site must be electrified. Generators should be prohibited. All heavy duty construction equipment should be clean-fuel powered, preferably by natural gas. The technology is available, but the absence of demand has made retrofitted or specially designed clean fueled heavy duty construction equipment difficult to obtain in our region. All solvents, adhesives and paints should meet South Coast Air Quality Management District Standards, or the most stringent standards currently in place in California. Lastly, any remaining emissions must be offset through APCD's emissions reductions bank or through commensurate contributions to APCD's Innovative Technologies Program to achieve maximum feasible reduction in air quality impacts. 3-4

PUBLIC SERVICES AND RECREATION

To the extent that the project will impact resources, infrastructure and public services outside of City limits in areas under County jurisdiction, the City needs to analyze the project's consistency with County General Plan policies. Currently, there is an identified shortage of recreational facilities in Goleta and on the south coast (The Goleta Valley Outlook, May, 1998; Goleta Valley Voice, 12-23-98.) Similarly, the overcrowding of elementary schools in Goleta has reached an alarming level (Goleta Valley Voice, 12-23-98.) The County Land Use Development Policy (LUDP) #4 requires that no development can be approved when there is inadequate public services such as schools, solid waste disposal, roads, and recreational facilities for existing residents. Currently there is not adequate public services or infrastructure (roads, schools, solid waste disposal, and recreational facilities) for existing residents of Goleta. Since there are not adequate public services and infrastructure for existing residents, and since this project would exacerbate these shortfalls in the unincorporated areas, the City should analyze how this project fails to comply with applicable County policies, such as LUDP #4. 3-5

TRAFFIC

The proposed project results in significant impacts to traffic and circulation. These impacts can be mitigated below the level that the proposed mitigation measures would reduce them to. The project size can be reduced by 10% and the project would still fulfill its purpose. A mitigation measure requiring a 10% reduction in employees and traffic would mitigate traffic impacts (and air quality impacts) substantially, would be feasible, and would be consistent with the project objective. In areas outside of the City limits that would be affected by this project, there are existing severe traffic problems. The City needs to analyze the project's consistency with the County Circulation Element in areas where the project would affect traffic conditions in unincorporated areas, such as Goleta. The City cannot ignore the County's policies because this project will affect areas outside of the City limits. 3-6

CONCLUSION

This project would be improved, and the impacts associated with it reduced, by incorporating the following changes. The detention basin can be vegetated with locally collected wetland plants. Landscaping for the entire project should be Santa Barbara coastal native plants. A parking lot cleaning program to remove water pollutants would help to protect the ecologically sensitive Goleta Slough and mitigate the impacts of polluted runoff that would result from construction and use of the parking area. The project's significant impacts to air pollution and to traffic can be lessened by reducing the project's size. A 10% reduction in the project size and employees would be a feasible way to substantially reduce these impacts and would not conflict with the project purpose. Finally, EDC believes that an analysis of the project's consistency with County General Plan policies would be relevant and is important to understand how the project, located on land that is largely within an unincorporated County area, fits into the overall community and its resources, public service availability and infrastructure.

Thank you for considering our comments and suggestions to improve the project and make it more compatible with, and less detrimental to, the surrounding human and natural environment.

Sincerely,

Brian Trautwein
Environmental Analyst

cc: Santa Barbara County Planning and Development Department

DRAFT

Report by Wetlands and Riparian Restoration Focus Group
Project Clean Water/Project NPDES

February 18, 1999

Darlene Chirman, Habitat Restoration Biologist, Santa Barbara Audubon Society; Andy Caldwell, COLAB; Robert Hansen, Carpinteria Creeks Committee; Sharyn Main, Wendy P. McCaw Foundation; Stephanie Langsdorf, Santa Barbara Urban Creeks Council; Maureen Spencer, Santa Barbara County Flood Control District; John Robinson, Heal the Ocean; Carl Stucky, Carpinteria Valley Association; Brian Trautwein, Environmental Defense Center

I. INTRODUCTION

In 1998, high levels of bacteria closed numerous beaches over extended periods of time, prompting public concern over the health of creeks and watersheds. Before 2002, the County will be required to apply for a federal Clean Water Act NPDES permit and develop a plan to reduce non-point source pollution. With cooperation from interested cities and community groups, the County initiated Project Clean Water and Project NPDES in 1998 to address the immediate concern of bacterial pollution in seven specified County waterways and beach closures caused by that pollution, and the longer term issue of complying with the County's anticipated NPDES permit.

These two efforts have proceeded in concert, and have identified potential sources of bacterial pollution. Through research, participants in these efforts have identified numerous solutions to non-point source water pollution, including bacterial contamination. One solution that is well documented and that reduces levels of bacteria and other water pollutants discharged to the ocean is the use of Vegetative Treatment Systems (also known as bio-filters, bio-swales, and constructed wetlands,) and vegetated riparian buffer areas to breakdown, decompose, filter and assimilate pollutants. Urban and agricultural polluted runoff can be directed through constructed wetland basins that slow flows and cause sediment and pollutants to fall out of the water column, and that break down the pollutants through biological and chemical processes in the soil and root zone. The use of these filtering wetlands to reduce a wide array of non-point source (NPS) pollutants is well documented and is summarized in the following section.

Related to the technique of directing runoff through constructed wetlands, another Project Clean Water and Project NPDES-identified solution to water pollution is the protection and restoration of riparian buffers which similarly breakdown, assimilate and filter pollutants from runoff. The restoration of riparian vegetation on creek banks and flood plains adjacent to creeks can physically reduce the amount of pollution, including bacteria, that enters creeks and flows to the ocean. Vegetation in these areas slows overland runoff and allows bacteria and nutrients to be decomposed and taken up by the plants and biological and chemical activities in the soil. According to water quality experts

and agencies, revegetation of denuded stream beds with low-growing herbaceous vegetation significantly increases the decomposition rate and the filtration capacity within streams and thus reduces the amount of pollution reaching the ocean. The Wetland and Riparian Habitat Restoration Working Group, established by the County and participating cities as a subcommittee to the Problems and Solutions Committee of Project Clean Water and Project NPDES, is charged with investigating the use of wetlands, bio-filters and riparian restoration to reduce water pollution, with identifying mechanisms to promote riparian and wetland restoration, with identifying funding sources available for restoration, and with developing a report recommending steps to be taken to implement these solutions.

This report focuses on the restoration of riparian areas and creek buffers, and on the construction of wetlands within the seven identified watersheds to address the immediate concern of bacterial contamination and the longer-term concern of other NPS pollutants subject to NPDES regulation. It therefore is meant to be a tool to serve both Project Clean Water and Project NPDES. Since it can take two to three years to fully realize the benefits of these types of solutions, the Wetland and Riparian Habitat Restoration Working Group recommends that specific wetland and riparian restoration programs be established to reduce NPS pollution as soon as possible so that their water quality benefits can enjoyed sooner rather than later.

II. RELATIONSHIP OF PROBLEM TO SOLUTION: THE USE OF RIPARIAN BUFFER RESTORATION AND BIO-FILTERS TO REDUCE WATER POLLUTION

A. The Problem: Non-Point Source and Bacterial Pollution

The EPA has concluded that non-point source pollution accounts for over 65% of the total pollution load to surface water in the U.S., and as such, it is recognized as the major cause of surface water quality impairment in the country (US EPA, 1989; Johengen & LaRock, 1992). Traditional pollutants, i.e. nutrients and sediments, are the main causes of surface water impairment. Agriculture is the single largest cause of water quality impairment in lakes and rivers in the U.S., contributing nitrogen, phosphorus, sediment, bacteria, viruses and other microorganisms, and pesticides (Baker, 1992, p. 5; US EPA, 1993). This is relevant because some of the polluted watersheds of concern to Project Clean Water are dominated by agricultural land uses, including Rincon and Jalama Creeks. Other contributing factors to, and sources of, non-point pollution include urban runoff (especially metals), runoff from streets and highways, disposal of solid waste, and modification of watershed hydrological dynamics (Baker, 1992, p. 5.)

Specific NPS pollutants associated with urban runoff include domestic fertilizers, herbicides, pesticides and other outdoor chemicals, nutrients and biological agents from septic system discharges and direct discharge of human waste, nutrients and bacteria from domestic animal wastes in surface runoff, oil, grease, antifreeze, hydraulic fluids, asphalt surface leachate and other chemicals from vehicle parking areas and roadways, and construction related wastes (e.g. rinse waters from concrete work, painting, etc.) (Draft EIR for Toro Canyon School, Santa Barbara County, 1998.) Effects of these principle

contributors to NPS pollution have been difficult to remedy with conventional methods (Hammer, 1992). The US EPA has identified the protection, restoration and construction of wetlands and riparian habitats as a critical management measure for controlling NPS pollution (US EPA, 1993, p. 7-8.) According to the California Coastal Commission, "wetlands should be installed in areas where they will serve a polluted runoff-abatement function." Wetlands, including the plants, soils and microorganisms in the substrate, prevent pollutants from entering adjacent waterbodies "through filtration, deposition, infiltration, absorption, adsorption, decomposition, and volatilization," as well as denitrification (California Coastal Commission, 1995.)

B. Riparian Buffer Restoration

Riparian areas are vegetative ecosystems along water bodies. They characteristically have high water tables and are subject to periodic flooding. These zones may contain both uplands and wetlands. According to the EPA's Non-Point Pointers, in order to curb NPS water pollution, "one strategy is the restoration of degraded wetlands and riparian zones with NPS pollution control potential."

As noted above, the EPA considers the protection and restoration of riparian areas and creek buffers as an important management measure for controlling a wide range of NPS pollutants. "Riparian areas can play a critical role in reducing NPS pollution, by intercepting surface runoff, subsurface flow, and certain ground-water flows. Their role in water quality improvement includes processing, removing, transforming, and storing such pollutants as sediment, nitrogen, phosphorus, and certain heavy metals. Thus, wetlands and riparian areas buffer receiving waters from the effects of pollutants, or they prevent the entry of pollutants into receiving waters" (U.S. EPA, 1993).

"The pollutant removal functions associated with wetlands and riparian area vegetation and soils combine the physical processes of filtering and the biological processes of nutrient uptake and denitrification" (Ibid.) Riparian areas reduce bacterial contamination in waterways by these same processes. Also, by reducing sediment and nutrients in creek water, riparian areas reduce the environmental factors favorable to the growth and persistence of bacteria in creek environments, specifically, nutrient rich streambed sediments. "Fecal coliform concentrations in stream sediments are 100 to 1,000 times those found in the overlying water column" (RWQCB, December, 1993, p. 16). Therefore, to reduce conditions favorable for bacterial persistence, it is important to control erosion and sedimentation.

The Coastal Commission's Procedural Guidance Manual: Addressing Polluted Runoff in the California Coastal Zone, (1996,) also recommends the protection of riparian areas to protect water quality. It suggests a number of measures "to protect sensitive areas (such as streambanks, wetlands, estuaries, ponds, lake shores, and riparian zones)." This same document also suggests that communities "establish adequate setback distances near wetlands, water bodies, and riparian areas" as a means to control water pollution in urban runoff. The Coastal Act itself (Section 30231) requires that the biological productivity and the water quality of coastal wetlands be maintained to support optimal levels of aquatic life. However, this requirement only applies to new developments in the coastal zone and does not address new development in inland areas or existing pollution sources. General

Plan policies for the protection of wetlands and riparian areas can address inland pollution sources, but also only apply to new developments. In addition to new or updated policies designed to protect creeks and wetlands from new development (see report from Ordinance and Policy Review Working Group,) local government programs are needed to facilitate a proactive restoration program for riparian areas and wetlands with NPS reduction potential.

Similarly, the County's LCP (which is derived from the Coastal Act) includes policies to protect wetland and riparian areas from the effects of new development in the coastal zone, and in doing so, to protect water quality. These policies include the provision of specific setbacks of 50-feet along creeks (LCP Policy 9-37) in part to protect the "water quality of streams" from new development. LCP Policy 9-9 requires a 100-foot minimum setback for new development from all coastal wetlands. Where riparian vegetation is to be removed as part of new coastal development (in cases for "necessary public infrastructure" that cannot be designed to avoid the habitat, the LCP requires revegetation with native plants in the riparian buffer. The Goleta Community Plan also has similar creek setback and revegetation provisions for new development in inland areas of that community. However, these polices are meant only to ensure that new development does not degrade existing resources and water quality. Because the vast majority of NPS water pollution is resulting from existing development, a more proactive riparian restoration program is needed to help filter pollutants from developed landscapes before runoff carries those pollutants into creeks, estuaries and the ocean. Strategies and concepts for implementing a proactive creek restoration program are discussed later in this report.

Since "the portion of a wetland or riparian area immediately below the source of non-point pollution may be the most effective filter," (Cooper et al., 1986; Lowrance et al., 1983; Phillips, 1989) these areas should be protected, restored and created, where appropriate, throughout watersheds. "Degraded wetlands and riparian areas should be restored, where possible, to serve an NPS pollution abatement function" (US EPA, 1993). Locations for these activities must not be limited to areas only adjacent to or within major stream channels. Appropriate locations for these activities include creek-side riparian locations, degraded wetlands of all types, drainage channels and ditches, stormdrains, culverts and other sites or water conveyance facilities that used to or that could support such filtering habitats. The California Urban Creeks Council has "day-lighted" many creeks in the bay area, meaning that they have restored above ground flows through filtering riparian and wetland plant communities by removing stormdrains and culverts. In areas where such drainage facilities exist in this area, they too can be converted back into filtering wetland and riparian habitats.

The EPA urges those interested in NPS pollution prevention to "consider wetlands and riparian areas and their NPS control potential on a watershed or landscape scale." These areas should be considered part of a continuum of filters (or if currently lacking riparian or wetland vegetation, as potential filters) along drainages, tributaries, creeks, rivers and coastal waters that together serve an important NPS abatement function. Given this perspective, riparian restoration (and wetland construction) should occur throughout watersheds, not only along major creeks, but in and beside tributaries, ditches, drainages, swales and stormwater conveyance facilities such as storm drains and culverts. Projects to create or enhance natural vegetative filters should be sited throughout watersheds in and along drainage ways, tributaries, topographical depressions that convey, or that could

convey runoff, and stormdrains that could feasibly be "daylighted," as well as around and within creeks and wetlands.

Local Planning Departments play a key role in protecting and restoring local waterways (Stauffer, *The Water Crisis: Constructing Solutions to Freshwater Pollution*, 1998, p.55). Citizens can also take an active role in restoration: many groups have organized tree planting events or clean-up days in their local watersheds. Stauffer cites Toronto's Task Force to Bring Back the Don River. This group recommends creating wetlands and planting native trees and shrubs to reduce water pollution, flooding and erosion and to stabilize streambanks. This is something that volunteer conservation and restoration organizations have been doing locally for a number of years, although this effort needs to be augmented by more citizen restoration projects and by local government programs and activities.

C. Bio-filters, Wetlands and Vegetative Treatment Systems

Natural wetlands provide functional benefits that may be grouped into three categories: ecosystem support, buffering of runoff rates, and water quality improvement (Hammer, 1992, p. 50). Specific benefits include: reduction of flooding along rivers and streams by reducing and desynchronizing peak runoff; slowing flood water velocities; support of wildlife; improved dissolved oxygen content for decomposition of organic compounds and oxidation of metallic ions; augmenting base flows in streams and rivers; cleansing contaminated waters flowing through natural wetlands by a combination of physical, chemical, and biological activities; and sediment storage (Hammer,1992, p. 51; Knight, 1992, p. 97).

Natural wetlands can perform substantial improvements in water quality and quantity in local and large scales (Feierabend, 1989; Hammer 1992; Mitsch, 1992; Olson 1992). "Wetlands have produced a reduction in BOD, pathogens, and some hydrocarbons, and excel in nitrogen removal. They have been reported to act as sinks for trace metals, phosphorus and suspended solids," which include fecal material (Association of Bay Area Governments, 1981). Constructed wetlands have been defined (Hammer, 1992) as:

> "*engineered systems designed to simulate natural wetlands to exploit the water purification functional value for human use and benefits. Constructed wetlands consist of former upland environments that have been modified ... for the primary purpose of contaminant or pollutant removal from wastewaters or urban runoff.*"

Created wetlands have started to receive serious attention as low-cost, efficient means to clean many types of wastewater including sources of NPS pollution, such as urban stormwater runoff and agricultural runoff (Feierabend, 1989; Hammer & Bastian, 1989; Livingston, 1989; Silverman, 1989; Meiorin, 1989; Daukas, Lowry & Walker, Jr., 1989; Hammer, 1992).

Wetlands are constructed in landscapes for many reasons, including (1) to treat waste water, (2) to compensate a wetland loss elsewhere (mitigation), and (3) to provide wildlife habitat. Control of NPS runoff is a more recent application. Wetlands built to control NPS pollution are often part of a watershed or river floodplain restoration project.

The construction of new wetlands and the restoration of previously filled or drained wetlands to control NPS pollution contributes to two national goals: cleaning up waterways and adding to wetlands reserves (Mitsch, 1992, p. 29).

Constructed wetlands are anthropogenic systems that are designed, built, and operated to emulate natural wetlands or functions of natural wetlands to meet human needs, including water treatment. The majority of constructed wetlands used for water treatment are surface-flow or free-water surface systems where influent waters flow across and above the surface of the substrate material (clay or soil). A second classification of constructed wetlands used for water treatment are subsurface-flow systems where waters flowing though the system pass entirely within the substrate (gravel or crushed rock), and water flow is not visible (Hammer, 1992, pp. 55-56). Both types could be effective in NPS and bacterial control in Santa Barbara County.

Mitsch (1992) presents preliminary principles of wetland design that are factors to consider when developing plans to restore or construct wetlands for water quality improvement.

(1) Design the system for minimum maintenance. The system of plants, animals, microbes, substrate and water flows should be developed for self-maintenance and self-design.
(2) Design a system that utilizes natural energies, such as the potential energy of a stream, as natural subsidies to the system.
(3) Design the system with the landscape, not against it. Floods and droughts are to be expected, not feared. Outbreaks of plant disease and invasion of alien plant species are often symptomatic of other stresses and may indicate faulty design rather than ecosystem failure.
(4) Design the system with multiple objectives, but identify at least one major objective and several secondary objectives.
(5) Design the system as an ecotone. This means including a buffer strip around the site, but it also means that the wetland itself is often a buffer system between upland aquatic systems.
(6) Give the system time. Wetlands do not become functional overnight and several years may elapse before pollutant retention or wildlife enhancement is optimal. Strategies that try to short-circuit ecological succession or over manage are doomed to failure.
(7) Design the system for function, not for form. If initial plantings and animal introductions fail but the overall function of the wetland - based on initial objectives - is intact, then the wetland has not failed. Expect the unexpected.
(8) Do not over engineer wetland design with rectangular basins, rigid structures and channels, and regular morphology. Ecological engineering recognizes that natural systems should be mimicked to accommodate biological systems (emphasis added.)

Wetlands play an important role in water quality improvement, and should be part of an integrated landscape approach to NPS control (Olsen, 1992.) Constructed wetlands can contribute significantly to watershed water quality improvement, but must be sited correctly and not overloaded (Olsen, 1992.) As of 1992, the number of constructed wetlands test sites for NPS control was growing. The authors cited support the use of constructed wetlands for a variety of water pollution control applications, including NPS control.

According to the EPA, a constructed stormwater wetland "has high pollutant removal capacity" (US EPA, 1993). Some NPS pollutants that could be filtered out by wetlands include those listed above: agricultural and domestic fertilizers, herbicides, pesticides and other outdoor chemicals, nutrients and biological agents from septic system discharges and direct discharge of human waste, nutrients and bacteria from agricultural and domestic animal wastes in surface runoff, sediment, oil, grease, antifreeze, hydraulic

fluids, asphalt surface leachate and other chemicals from vehicle parking areas and roadways, and discharges of construction related wastes. Local governments must soon comply with new NPDES control programs required by the EPA and the Clean Water Act. Santa Barbara County should develop programs including constructed wetlands to control NPS pollution of creeks, estuaries and the ocean, and this could and should be done prior to the deadline for applying for the NPDES permit in the new millennium.

In addition to protecting and improving water quality, constructed wetlands also offer ancillary benefits including enhanced groundwater recharge, retention of runoff, reduction of peak flows and reduced flooding, recreational opportunities and open space, urban greenspace, aesthetic beauty, research opportunities, fisheries enhancement and wildlife habitat. Additionally, wetlands maximize photosynthetic production and atmospheric carbon fixation (thereby reducing air pollution,) secondary production of fauna, and food chain and habitat diversity. By improving the aesthetic setting, they also increase property values and property taxes. (*Estimating the Benefits of the Urban Streams Restoration Program*, Carol Steiner and John Loomis, Colorado State University Department of Agricultural and Resource Economics, 9-20-95.) "The preservation and protection of wetlands and riparian areas are encouraged because these natural systems have been shown to provide many benefits, in addition to providing the potential for NPS reduction," (US EPA, 1993).

The only identified disadvantage to the use of constructed wetlands for water pollution control is the delayed operational status. Peak removal efficiencies of constructed wetlands may not be attained until after two or three growing seasons. Users must gradually plan to phase in wetlands operation. Treatment system longevity is unknown, due to the small number of successful operations that have been operating for long periods of time, however experts believe that constructed wetlands can operate successfully for over the long-term (Hammer & Bastian, 1989, Hammer, 1992). In some cases maintenance may be required, such as eradication of undesirable invasive non-native plants. Use of these Vegetative Treatment Systems may also be limited by steep topography, shallow soils, a high water table, or susceptibility to severe flooding (Hammer & Bastian, 1989, p. 16). Sites where constructed wetlands could be created in Santa Barbara County to control NPS pollution are typically near developed urban areas that do not normally exhibit these characteristics. Their use to control bacteria and agricultural pollutant runoff in rural areas does not appear to be constrained. Availability of space in highly urbanized areas may be somewhat of a restriction, however ample areas exist throughout most of the developed portions of the County, especially near creek greenbelts and open spaces to accommodate constructed wetlands.

III. ONGOING EFFORTS TO RESTORE RIPARIAN AREAS AND CONSTRUCT WETLANDS

Wetland and riparian habitat restoration has been ongoing in the County for 20 years, and the rate of restoration has increased. Unfortunately, the rate of wetland and riparian habitat loss and degradation still exceeds the rate of creation and restoration of wetlands and riparian habitats. There are two distinct types of wetland creation and

restoration projects and riparian restoration projects: 1) those that are required as mitigation under CEQA or as permit conditions to compensate for habitats lost or degraded by development or other impacts, and 2) those that are not required to compensate for losses or degradation, but are done to improve and increase habitats.

Recently there have been several efforts to treat stormwater runoff / site drainage by the use of constructed wetlands (bio-swales or bio-filters) with medium to high uptake vegetation. Depending on site hydrology, permanently wet basins may be used, however, due to this region's arid nature, basins with plants adapted to seasonal hydrologic variations may be more appropriate in areas with only seasonal saturation. The Glen Annie Golf Course has constructed several bio-filters (permanently wet due to irrigation/hydrology) as required lawsuit settlement conditions (*Santa Barbara Urban Creeks Council and Citizens Planning Association v. County of Santa Barbara and Dos Pueblos Golf Partners*.) A 1-acre bio-filter to be installed (May 1999) at the Camino Real Marketplace (suggested by environmental groups,) and will serve a dual purpose of water pollution control and mitigating, as required, for the impact of lost wetlands. At the urging of the California Coastal Commission, UCSB has installed several bio-filters for storm drain runoff near the Goleta Slough (*Storm Water Quality Study, North Main Campus Storm Drains*, Penfield and Smith, 11-27-95.) The only other bio-filter planned in the County is for the recently approved Cathedral Oaks Estates project near Dos Pueblos High School in Goleta. This measure was proposed by environmental groups and incorporated as a condition of approval. It was agreed to by the applicant to address water quality issues and to facilitate project approval.

Wetland restoration and creation projects have been undertaken locally even when not required as mitigation. Examples include the work done at the Isla Vista Del Sol Vernal Pools (Wayne Ferren, UCSB Museum of Systematics and Ecology.) Groups including the Audubon Society, the Devereux Wetlanders, the UCSB Habitat Restoration Club, Urban Creeks Council have undertaken volunteer and grant funded projects. Wetland restoration efforts of this type are becoming more common. Restoration of the Modoc Wetlands (La Cumbre Mutual Water Company) is proposed although it is not required as mitigation. The Committee for Santa Barbara has recently developed a plan for the restoration of portions of the El Estero at the City of Santa Barbara's Waterfront. This plan should be utilized as a model or a starting point by the City, the County and the Restoration Working Group to develop a more detailed plan, including engineering and feasibility analysis. This project should be completed as part of the Mission Creek Flood Control Project, since a goal of that project is to improve water quality in Mission Creek, in connection with anticipated waterfront developments, or as a separate, stand alone project.

Riparian restoration projects have been undertaken since 1992 by the SB Urban Creeks Council (UCC,) sometimes in conjunction with County Flood Control District mitigation efforts, to reduce erosion, to improve and expand habitat, and to protect water quality. UCC work has occurred on creeks including San Jose, Las Vegas, Phelps, Arroyo Burro, Glen Annie and San Roque. Other groups, including the Santa Barbara Audubon Society, the UCSB Habitat Restoration Club, and the Carpinteria Creek Committee have more recently worked to replant degraded riparian areas. The Santa Barbara County Flood Control District has also been involved with revegetation efforts for ten years and has revegetated approximately 40 acres of wetlands and riparian areas combined countywide as

mitigation for Annual Plan and long term flood control and creek maintenance projects. In some instances, the revegetation efforts have resulted in healthier, more diverse riparian vegetation than would have otherwise existed, and has also resulted in an increase in riparian vegetation on some stream courses. In general, those involved in wetland and riparian habitat management and restoration agree that, overall, riparian and wetland resources continue to dwindle despite these revegetation efforts. This indicates that the current levels of riparian and wetland restoration are inadequate to maintain, much less improve and expand riparian habitats and water quality.

Costs of Riparian and Wetland Restoration

Costs of these efforts vary depending on the need for grading (wetlands construction,) on permitting (if required,) on the level of necessary maintenance, and on volunteer contributions. Based on estimates from the Santa Barbara Urban Creeks Council, approximately two acres of riparian habitat along San Jose Creek has been restored and maintained using a combination of grants totaling $10,000 and volunteer efforts. Other UCC projects have been entirely voluntary and have resulted in the restoration of approximately another two acres on different south coast creeks. The County Flood Control District estimates that it costs as little as $13,000 per acre with drip irrigation to as much as $30,000 per acre (871 plants/acre: willow, cottonwood, wild rose, blackberry, sycamore and elderberry) with truck watering, however, this assumes a need for irrigation. This estimate includes two years of maintenance. While other projects have been successful without watering, this success depends on site hydrology. Urban Creeks Council's projects have been less expensive than Flood Control's projects largely because of volunteer efforts and donated plants.

Wetland construction costs range from a high of $20,000 per acre (Camino Corto Vernal Pools,) to as little as essentially nothing for volunteer projects requiring no grading or excavation. According to the Flood Control District, excavation for construction of wetlands may cost approximately $8,000/acre (assuming a one foot drop in elevation.)

IV. RECOMMENDATIONS AND ACTION PLAN

Our committee, which consists of biologists, environmental analysts, habitat restoration consultants, and representatives from community organizations strongly recommends that the County and Cities of Santa Barbara and Carpinteria develop wetland creation and enhancement and creek restoration programs within their planning, parks, public works, flood control and roads departments as a long-term, cost effective way to reduce NPS pollution and bacterial contamination of creeks and the ocean. Establishment of these programs would require authorizations by the County Board of Supervisors and the participating city councils. The goals of these programs will be to protect and improve water quality by providing a resource to members of the community and to create within the County (and city) departments institutional mechanisms to promote, develop and implement water quality based riparian and wetland restoration projects. The underlying goal of our recommendations is to establish a framework for restoration within the County and city governments, and to facilitate public and private restoration of riparian areas and

wetlands and the construction of bio-filters by making the process of developing and implementing such projects easier than it is now.

To do this, it is necessary to establish a clearinghouse of resources and information, so that persons interested in undertaking restoration or creation projects do not have to go through extensive research on permitting, technical considerations, financing and other project details. The Restoration Working Group (RWG) (Recommendation #4) is intended to serve this purpose by bringing together the various agencies and expertise under one umbrella entity. It is intended that by establishing the RWG, people and entities interested in doing this type of work would have a centralized location where they can access all necessary information and assistance necessary for planning and carrying out wetland and riparian restoration.

The County's and the cities' parks (and recreation) departments manage the majority of public open space lands within the cities' and the County's respective jurisdictions, including numerous riparian areas and areas suitable for creating new wetlands and for enhancing existing wetlands. However, none of these agencies have programs or qualified biologists to manage such habitats nor to develop riparian and wetland restoration projects. The public works departments, and the divisions within them, also currently lack programs and expertise to assist in the development and implementation of wetland and riparian projects for water quality control and improvement. The County's and cities' planning departments possess the expertise, in some cases, to protect and improve water quality through wetland and riparian restoration efforts, but lack organizational programs geared to do so. Furthermore, it is difficult for these agencies to be proactive in this regard due to large existing workloads related to reviewing and permitting projects which may cumulatively degrade water quality (in spite of existing standard mitigation measures they employ.) Therefore, our recommendations are programmatic in nature and are designed to take advantage of existing staff resources and expertise, to the extent possible, and to create a new focus and programs within the departments on water quality improvement through habitat restoration and wetland construction. Since our recommendations are programmatic in nature, rather than site specific, there is a need, as described below, to continue the work of the Wetlands and Riparian Restoration Working Group (WRG) established by the cities and County through Project Clean Water and Project NPDES, and to establish formal coordination between the WRG and the agencies identified below.

<u>County of Santa Barbara</u>

Recommendation #1 is:

That, in 1999-2000 the Santa Barbara County Parks Department should hire or (as an option) contract with a natural resource manager/biologist with qualifications that enable her/him to develop creek and wetland restoration plans and wetland creation plans for the County's open spaces, green belts and parks. County Parks should systematically identify all sites with creeks, wetlands (as broadly defined using the Cowardin wetland classification system relied upon by the County and other agencies,) drainage courses, underground culverts and storm drains under County open spaces and parks, and undeveloped open spaces where stormwater wetlands could feasibly be created. (Stormdrain and culvert mapping would be done in coordination with designated Public

Works Department Engineer - see Recommendation #2.) County Parks should work with the designated County Public Works Department engineer (see Recommendation #2) to develop grading plans necessary for construction of wetlands and day-lighting / restoration of all storm drains and culverts, where feasible, beneath County parks and open spaces. To the extent feasible, storm water runoff should be directed into constructed wetlands. County Park's biologist should coordinate with designated Planning and Development Department (PDD) restoration point person (see Recommendation # 3) and with Restoration Working Group (RWG) (see Recommendation #4) to prioritize projects for each of these sites. Prioritization should be based on feasibility, cost, funding availability and pollution reduction potential. Parks, in conjunction with the PDD point person and RWG should develop plant lists and specific restoration project descriptions for all riparian areas within County ownership or easement (including 50 to 100-foot buffers around existing riparian areas) and for all identified potential wetlands construction and restoration sites. *(Estimated County Cost: $45,000/year plus benefits for new employee. Riparian restoration and wetland creation projects can largely be funded through shift a of existing vegetation maintenance budget and grants - no increased expenses in Parks Department budget for implementation of restoration and creation projects. Participation by community members and groups are expected to further augment efforts.)* (Alternative Recommendation #1 is that County Parks undertake this effort without hiring a biologist, but with existing staff resources in other departments and/or with a contracted biological consultant.)

Recommendation #2 is:

That, in 1999, the County Public Works Department should designate an existing staff engineer with experience in grading/hydrology to be responsible for participation in the RWG, and to act as point person for consultation with Parks Department biologist, community groups, landowners, project applicants and other individuals or entities seeking to prepare restoration or creation plans potentially involving earthmoving. It is also recommended that the County Public Works Department continue to map all existing storm drains in the seven Project Clean Water targeted watersheds (stormdrains under County parks and open spaces could be mapped by Parks Department in coordination with Public Works, see Recommendation #1) for the purpose of prioritizing them for eventual day lighting and conversion to bio-filters. *(Estimated County Resources: Public Works Department - 300 hours per year.)*

Recommendation #3 is:

That, in 1999, the County Planning and Development Department (PDD) should designate existing staff to be responsible for organizing and hosting monthly meeting of the Project Clean Water RWG (open to public, agencies, etc.) The Restoration Working Group initially established through Project Clean Water would thus remain intact with participation from County and city staff, other agencies involved in restoration, members of the public and community groups, interested business representatives (e.g. nurseries, etc.) and others. The RWG would be the centralized clearinghouse for all information on riparian and wetland restoration issues, would have its own phone number, and would be "housed" within PDD. An existing, qualified PDD biologist would be designated to chair the RWG and to act as the point person for consultation with Parks Department biologist,

Public Works Engineer, community groups, landowners, project applicants and other individuals or entities seeking to prepare or participate in restoration or creation plans. This biologist would be responsible for assisting in the development of the restoration and creation plans (except for project applicants' required mitigation projects, in which case consultation will be limited to advice,) and for determining the level of County environmental review and permitting, if any, that is required. *(Estimated County Resources: 500 hours per year.)*

Recommendation #4 is:

That the County and the RWG should coordinate and host quarterly creek and wetland restoration workshops beginning in 1999-2000 to: 1) bring together representatives from organizations and from all interested agencies (DFG, ACE, Flood Control, Parks, Roads Division, PDD, Cities, etc.) with a role in restoration; 2) educate potential private and public restoration project sponsors and participants about the technical, legal (i.e. permitting,) and other considerations pertinent to restoration projects, and 3) create an ongoing forum for discussion and development of specific public and private restoration/creation projects to facilitate successful implementation of projects. Additionally, the County, through the RWG, would promote its services and actively identify, plan, and implement restoration projects. As part of its community outreach component, the RWG should develop a pamphlet containing information that may be needed to initiate restoration projects along creeks or wetlands. The Pamphlet would include guidelines on what and when permits may be needed, example restoration project descriptions, planting techniques, etc. (see attached Preliminary Template for Restoration Proposals.) *(Estimated County Resources: Planning and Development - organizing and hosting workshops: 80 hours/year (total resource overlap with Recommendation #3.) Participation by other County agency staff: 80 hours per year (no overlap with Recommendations #1-3. Pamphlet: $10,000.)*

Recommendation #5 is:

That, in 1999, the County Public Works Department Roads Division should designate an existing engineer, that, in conjunction with designated Planning and Development Department biologist and Restoration Working Group, would develop bio-swale (constructed wetlands) designs for existing and proposed County roadside drainages. The goal is to reduce the pollutant load from roadway surfaces through vegetative filtration using native wetland or other appropriate plant species. *(Estimated County Resources: 250 hours per year for design/planning (no overlap with Recommendation #3.) Construction of bio-swales funded through shift from County Roads division roadside spraying and vegetation maintenance budgets and grants (See Recommendation #7) - no increased monetary costs.)*

Recommendation #6 is:

That, in 1999-2000, the County Flood Control District should designate existing biologist (or hire/contract part time biologist) to coordinate with RWG and develop and implement mitigation banking plans to augment existing efforts for project specific mitigation efforts. *Estimated County Resources: 500 hours (if existing staff person,) or $25,000 plus benefits from south coast flood control benefit assessment district if new staff*

half time biologist. (Note: recommendation would be near-term investment to accelerate mitigation program to facilitate future flood control permitting/CEQA mitigation compliance and would thus result in future cost savings from reduced future need to perform required mitigation efforts. Short-term cost to County erased by long-term savings.)

Recommendation #7 is:

Establishment, in 1999, of a Grant Team to apply for funding to implement specific restoration / creation projects by agencies (where not required as mitigation) and by individuals and organizations working alone or in concert with agencies. Team would potentially consist of County personnel described above, participating city personnel (Carpinteria and SB,) the RWG and community groups. *Estimated County Resources: (total overlap with recommendations #1 through #6.) Estimated County financial benefit: $200,000 - $2 million dollars per year in new grants for creek and wetland restoration work.* This would potentially fund restoration of 10 - 100 riparian acres per year or the construction and restoration of a similar acreage of wetlands annually. At this rate, assuming a potential need for the restoration of 50 acres of riparian habitat and 20 acres of restored or constructed wetlands per watershed, it would take five to 50 years to complete work on the seven watersheds targeted by PCW.

(Note: financial benefits of riparian restoration and wetlands creation include: reduced streambank erosion; potential reduced flooding; water quality improvements / assistance in complying with NPDES permit; reduced parks maintenance costs (no need to maintain restored areas after established,) improved visual resources and passive recreation opportunities and resulting increase in property values and thus property taxes. These financial benefits are difficult to quantify, but are expected to offset all costs to the County, especially considering the availability of outside funding sources.)

Cities of Santa Barbara and Carpinteria

Recommendation #8 is:

That, in 1999-2000, the City of Santa Barbara and the City of Carpinteria should follow the above recommendations as applied to their jurisdictions and cooperate with the County in the Restoration Working Group (Recommendation #3) and the Quarterly Restoration Workshops (Recommendation #4.)

General Recommendations

Recommendation #9 is:

That the County and cities should consider applying for the NPDES permit before the deadline in 2002 so that water quality improvement can be expedited.

Recommendation #10 is:

That, in 1999, the County and cities should consider developing a new standard mitigation measure and condition of approval for all projects and proposed new land uses. We suggest the following language: "Runoff from the project site shall be directed through above ground, permeable swales and/or basins (bio-filters) vegetated with native wetland or other high to medium uptake native plant species designed to filter pollutants from the runoff prior to discharging from the site or into a watercourse. Discharge of runoff into water course shall be designed to minimize erosion." Several project applicants have already agreed to this type of condition (i.e. Cathedral Oaks Estates and Camino Real Market Place) as a way to effectively reduce water pollution.

Recommendation #11 is:

That, in 1999, the cities and County should strongly consider updating their General Plan and Local Coastal Plan (LCP) policies to improve protection for wetlands and creeks. Specifically, the County should update its 20-year old Comprehensive Plan Conservation Element policies and related Zoning Ordinance language to require specific setbacks for all new development and agricultural projects near creeks and wetlands. We recommend that the County consider minimum setbacks of 100 feet for all wetlands (defined by the broadly accepted Cowardin System) and 50 feet for all perennial and intermittent streams and tributaries (measured from the top of the upper embankment or the edge of riparian vegetation - whichever allows for greater protection.) Any new policies may incorporate some degree of flexibility for site specific conditions while still ensuring stronger protection for creeks and wetlands than currently exists. For instance, depending on slopes and soil types, setbacks could be increased. New policies should require restoration of the buffer areas with appropriate native plant communities. The County should consider including language in its Comprehensive Plan similar to that of LCP Policy 9-41 which prohibits cultivated agriculture in streams, and language similar to LCP Policy 9-16(a,) which prohibits grazing in wetlands.

The City of Santa Barbara and other cities should similarly update their General Plans' Conservation Elements to provide greater protection for creeks and wetlands, and to foster restoration efforts. Specifically, the City of Santa Barbara should consider immediately updating its LCP to include specific setbacks of 100 feet for all wetlands, and 50 feet for all creeks. This will provide more buffer land for runoff filtration and for riparian restoration and construction of bio-filters.

Recommendation #12 is:

That, in 1999-2000, the County should establish an expanded native riparian and wetland plant nursery at a location yet to be determined (the County is currently dismantling its existing native plant nursery at the Public Works maintenance yard.) Plants, derived from local stocks, should be made available to private landowners willing to restore creeks and wetlands (for water quality, bank erosion control, landscaping purposes, aesthetics, habitat improvement, etc.) on their land, as long as they are not doing it to fulfill mitigation requirements. In cases where project applicants desire the plants for required mitigation, if available, the plants should be sold to project applicants at the market value to help offset the cost of establishing and operating the nursery. These plants should also be available for County agencies' mitigation projects, and for Parks Department restoration efforts (See Recommendation #1.) To facilitate restoration

activities, plants should also be made available, if feasible, to community groups to perform restoration work on creeks, tributaries, bio-filters and wetlands. The cities should also create native riparian and wetland plant nurseries and also have programs to subsidize, in whole or in part, the plant cost for private landowners performing non-mitigation restoration work. *(Estimated County cost: $50,000 for establishment of nursery; $75,000/year to operate the nursery including salary and benefits for one full time employee. Offsetting income from sales to project applicants estimated at $25,000 to $75,000/year depending on usage by project applicants for required mitigation. Further offsets by use of County agencies for required County mitigation efforts, may result in net income for County.)*

In order to ensure that adequate quantities of locally collected and propagated native plants are available for all restoration efforts, the County and cities should encourage existing local private nurseries to grow said plants. This can be accomplished by the County and cities sending out RFPs to local nurseries giving them the chance to bid on the propagation of native plants in order to provide the County and cities with native riparian and wetland plants needed for County and city mitigation efforts. Such an approach could be viewed as an alternative to the concept presented in the preceding paragraph or as a compliment to it. Additionally, the Grant Team (Recommendation #7,) should work with the RWG to develop grant proposals designed to fund the establishment of native riparian and wetland plant nurseries that would be operated by local non-profit groups currently conducting restoration work. Sites they may be appropriate for native plant nurseries include Santa Barbara High School (which is already growing native plants for the Flood Control District,) the Botanical Gardens and the Community Environmental Council. The very important goal of these three proposals is to ensure an adequate supply of local native riparian and wetland plant species to supply all local restoration activities discussed in this report, including public and private mitigation efforts.

Types of Model Projects Recommended

We recommend that demonstration pilot projects be developed and ultimately implemented by the County, cities, cooperative landowners (including public agencies) and the RWG: (Specific or general sites, where applicable, are listed in parenthesis.)

> Several potential restoration sites and types of projects have been identified in this report in order to provide a better understanding of the options available. These restoration sites and types were selected to serve as model or demonstration projects, and are intended to be further developed by the RWG. Some of these projects will rely on volunteer efforts by the community and private landowners, while others will require coordination among various County departments or a joint effort between the cities and County agencies.

1. Agricultural Runoff Bio-filter (Carpinteria Creek avocado ranch)

   Some agricultural practices can have detrimental impacts on water quality when creek banks are stripped of vegetation to make way for more crops and when excessive irrigation run-off is diverted directly into streams, creeks and rivers. Agricultural land in the Carpinteria watershed has been identified as a

possible site for an agricultural run-off bio-swale. Rather allowing water to flow from the field directly into the creek, water would instead be diverted into a bio-swale (vegetative treatment) before entering the creek. This process would remove contaminants from the runoff water. Additionally, bank stabilization would be improved by planting native riparian plants in degraded areas. The landowner has been approached and may be a willing participant. The RWG should continue to foster this relationship and provide the technical and other support necessary to facilitate landowner participation in this model project.

2. Urban Bio-filters / Constructed Wetlands (proposed Alan Road development, Earl Warren Showgrounds, Auto dealerships east of Arroyo Burro Creek channel north of Highway 101, Laguna Channel/Waterfront Area)

   Laguna Channel, located near the mouth of Mission Creek, has been identified by both this PCW working group and the Committee for Santa Barbara (CSB) as a potential site for wetland creation. Laguna Channel is highly degraded and is a source of ocean bacterial contamination in the waterfront area. A small wetland of 4-6 acres would improve the quality of stormwater discharge from Laguna Creek into the ocean. This project would be an example of a private/public partnership, requiring grant funds and land acquisitions/donations or easements in order to be successful.

   A development proposed at the end of Alan Road on land planned to be annexed to the City is an ideal site for a small scale bio-filter project. Working group members have met onsite with the developer, who is amenable to the concept of incorporating constructed wetlands or bio-filters into the Arroyo Burro Creek buffer area to filter pollutants from the runoff from the proposed development. As envisioned, urban runoff from the developed site would be directed through open swales and basins vegetated by medium to high uptake plants for filtration, similar to the Cathedral Oaks Estates project in Goleta. This demonstration project is contingent upon approval of the proposed development.

   Runoff from the auto dealerships located west of the Arroyo Burro Creek concrete channel, immediately north of Highway 101, could feasibly be directed through a constructed stormwater filtering basin adjacent to the creek in an existing privately owned open lot. Runoff from the Earl Warren Showgrounds is suspected to carry high levels of bacteria based on observations from a former employee. This potential pollution source in the Arroyo Burro watershed could be at least partially abated through the construction of biofilters onsite. Day lighting of existing stormdrains, and routing of runoff through vegetative filtering systems could remove fecal material and nutrients present in runoff.

3. In-Steam Bio-Filters / Restoration of Concrete Channels:

   Several sites along lower Arroyo Burro Creek and its tributaries have been identified for potential in-stream bio-filtration. A site further up the watershed was also identified. Just north of Highway 101 the creek has been channelized. La Cumbre/Sears parking lot drains directly into the creek on one side and auto

dealership lots' surface run-off drains into the creek on the other. High levels of bacteria have been documented just upstream from this potential in-stream bio-filter site, making it an ideal location to reduce water pollution. Restoration of this oversized concrete channel to incorporate in-stream vegetative filtration wetlands would not appear to increase flooding, and is consistent with the City's General Plan. The drainage from La Cumbre Plaza may also require a mechanical filter at the top of the drain to capture grease and oils from automobiles and trash and debris from the parking lot.

The existing Mission Creek Channel along Highway 101 (upstream from Carrillo Street) would serve as an ideal site for creating a bio-filtering habitat in the channel bed. The City's General Plan contains an Implementation Strategy requiring it to analyze the feasibility of restoring the channelized sections of Mission Creek. This effort could be undertaken as part of the RWG. Two options exist. One is the removal of the concrete and establishment of a wetland ecosystem designed to filter the many pollutants found in the low flows that persist in this channel almost year round. The other option is to establish the wetland on top of the concrete channel by building small berms across the channel at regular intervals. These berms, which may be approximately 4" to 6" tall, would cause the settling of sediment in the bed which would form the substrate necessary to establish (either through natural colonization or planting) wetland vegetation and microorganisms, such as algae, which work to filter, assimilate and decompose pollutants. This effort may be worked into the proposed Mission Creek Flood Control Project as mitigation or as a project component to address water quality issues. The significant amount of wetland habitat that could be established would provide substantial area for filtration.

4. Community Stewardship Program (Homeowner Riparian Restoration Projects):
   Many homeowners are interested in restoring streams and riparian areas in their backyards and properties. These activities need to be encouraged and facilitated by the County, cities, and RWG. In the Veronica Springs area, our group's representatives visited the Burd/Malinoff home which is next to a tributary to Arroyo Burro Creek. Some erosion of the creek bank is evident. Riparian restoration and "bio-engineering" of the bank (use of vegetation to control erosion) including planting of wild blackberries and arroyo willow trees would reduce sedimentation, and would act as filter for urban pollutants, septic effluent and fertilizers. Assistance with potential permitting requirements, outside funding and planting recommendations would encourage more homeowners to actually undertake restoration efforts (See Recommendations #3, 4 and 7.)

5. Agricultural Riparian Restoration (Carpinteria Creek avocado ranch)
   The owner of an avocado ranch along Carpinteria Creek was approached regarding potential restoration efforts along eroding creek banks. There is a possibility that this owner will cooperate in the implementation of a Project Clean Water demonstration riparian restoration project in order to control erosion and help reduce water pollution in the creek. The RWG should work with the

landowner to develop and implement a plan to restore the creek bank riparian habitat.

6. Urban Riparian Restoration (Mission, Sycamore, Laguna and Arroyo Burro Creeks)
   Numerous locations in the City of Santa Barbara and the County were identified as being suitable for restoration of riparian habitats to control NPS pollution. Locations along Mission Creek include the estuary, where an expansion of the Harbor View Inn is proposed a few yards from the estuary. The location of an illegal retaining wall on Mission Creek, at 410 W. Islay, is another ideal site for riparian restoration in the urban area. The wall is the subject of an administrative appeal of City Building and Public Works permits. Depending on resolution of the appeal, or as part of it, restoration of this site's riparian vegetation would improve water quality through buffering and filtering of polluted runoff.

   Laguna Channel is ideal for riparian restoration in addition to construction of an instream bio-filter. Riparian vegetation along the channel is currently absent. Several waterfront developments in the vicinity are proposed, and these could increase the delivery of NPS pollutants. Extensive deposition of fecal material is present in the channel. As part of a joint public - private effort, this creek could be restored relatively easily, and converted into an aesthetic amenity with greatly improved water filtration capabilities.

7. Roadside Bio-swale (Highway 101, Las Positas Road, Cathedral Oaks Road)
   Construction of bio-swales to filter polluted roadway runoff is currently being planned by the County Public Works Department's Road Division as part of the approved Cathedral Oaks Extension (Link 3) and the proposed Cathedral Oaks Road and Calle Real intersection in Goleta. In addition, numerous other sites have been identified that could support the installation of roadside bio-swales (vegetated channels to convey and filter runoff.) Long sections of Highway 101 (with CalTrans involvement) and Las Positas Road south of Modoc (near Arroyo Burro Creek) could accommodate roadside bio-swales. Such facilities would filter pollutants including hydrocarbons and other auto fluids, rubber, metals, and fecal material (See Recommendation #5.)

8. Riparian Understory Restoration (Museum of Natural History)
   Mission Creek flows through the grounds of the Museum of Natural History (MNH.) This area is frequented by dogs, however pet owners do not often clean up after their animals. The riparian overstory is largely in tact here, however the understory consists of non-native vegetation and bare ground in some areas. Restoration of the riparian understory would reduce sedimentation and act as an improved vegetated buffer to prevent the flow of pet wastes into the creek. Additionally, the site could accommodate a bio-filter to remove pollutants from the parking area of the Museum. The MNH is a cooperative landowner willing to participate in Project Clean Water's efforts to reduce pollution by restoring

wetlands and riparian areas. The RWG should nurture this relationship and work with the MNH to develop and implement a model restoration project.

9. Flood Control Mitigation Sites (Carpinteria Creek by Highway 101, Lake Los Carneros County Park

As part of its normal practices, the Flood Control District has begun to plant riparian species to mitigate the impacts of its maintenance program. In order to expedite this restoration, and thus facilitate permitting, larger areas of riparian and wetland habitats can be restored by the District, improving water quality and potentially reducing the future mitigation burden on the District. Two sites have been discussed by our group and Flood Control: one on Carpinteria Creek north of Highway 101, and one in the Lake Los Carneros County Park. Both sites are under the County's control. On Carpinteria Creek, extensive riparian restoration could occur, and this would improve water quality in the creek while acting as a mitigation reserve to offset the impacts of future flood control activities. Flood Control's preliminary plans for Lake Los Carneros Park is to eradicate non-native plants and establish a riparian and/or wetland habitat in a low-lying area near Calle Real. Runoff from Los Carneros Road and Calle Real would be directed through this low lying area and be filtered. Thus, in addition to providing required mitigation for future flood control impacts, it would enhance water quality in Carneros Creek.

General Locations for Creation of Bio-filters

In general, all existing stormdrains and culverts (where they are not under buildings or essential infrastructure) and drainage channels that convey runoff water directly or indirectly to creeks, wetlands or the ocean are potential candidate sites for the creation of bio-filters. Some of the existing stormdrains and culverts pass beneath structures, roads and other improvements that may render conversion to bio-filters not feasible. The Riparian and Wetland Restoration Focus Group recommends that stormdrains continue to be mapped (Recommendation #2 and recommendation from Infrastructure Cleaning Group) in the seven identified watersheds, and that stormdrains that could be converted to bio-filters be identified. These identified stormdrains, or sections thereof, that could be converted to bio-filters should be prioritized, and funding sought (see below) to implement the construction of bio-filters in the prioritized locations.

All new development that is approved in the County should be required to pass all runoff through constructed wetland basins/bio-filters in order to treat that runoff and reduce its pollutant load (Recommendation #11.) In this way, polluted runoff from existing developed areas and from all new development would subject to bio-filtration.

General Locations for Restoration of Riparian Areas

County and City Parks and Open Spaces

Flood Control Mitigation sites
Private properties encompassing creeks, tributaries and drainages
Laguna Channel
Concrete channelized creeks

V. STRATEGIES TO IMPLEMENT RECOMMENDATIONS/ACTION PLAN

The City of Santa Barbara, other participating cities, and the County of Santa Barbara can take advantage of existing or anticipated events and opportunities to assist in the implementation of the recommendations.

1. The City of SB has recently made a creek Master Plan for its three main creeks a priority for the upcoming year. This should be expanded to include Laguna Channel. The County and Carpinteria should participate in this effort and expand the creek Master Plan concept to the entire south coast.

2. The City of Santa Barbara's General Plan Conservation Element Implementation Strategy 1.3 requires it to analyze the feasibility of restoring concrete channelized sections of the City's creeks. This could be done in coordination with the RWG. Riparian corridors should created along banks and buffer areas, where feasible, and in-stream bio-filters should be created within channelized creeks (on top of concrete or in conjunction with concrete removal.)

3. Restoration incentives or cost sharing programs. The Natural Resources Conservation District has cost share programs available for restoration and protection of rangeland riparian and wetland areas. (see Funding Sources and Report from Domesticated Animal Waste Working Group.)

4. The Lower Mission Creek Flood Control Project can be used as a vehicle for getting restoration of additional reaches of the creek accomplished, including areas above the project reach.

5. Other creekside developments, while already often required to plant riparian buffers, can serve as vehicles to get additional riparian/wetland restoration and creation through stronger mitigation measures and cooperative arrangements with project applicants, grants to fund additional restoration and cooperation with community groups and the RWG.

VI. POTENTIAL FUNDING SOURCES

Due to the great variety and number of funding sources available to restore riparian areas and wetlands, and to implement measures to control NPS pollution, there is a great need to create a Grant Team (Recommendation #7.) Such a team would be able to bring together the expertise from the RWG, the cities, the County and other agencies to bring substantial resources to bear for the implementation of solutions to the existing water pollution problem.

GOVERNMENT GRANTS

U.S. Army Corps of Engineers, Section 206, Federal Water Resources Development Act of 1996

U.S. EPA Water Quality Assessment and Planning (local watershed management efforts)

U.S. EPA, Clean Water State Revolving Fund, (loans to local agencies)

U.S. EPA Nonpoint Source Water Pollution Control, Clean Water Act Section 319 (implementation of specific NPS management practices)

U.S. EPA, Pollution Prevention Incentives for States (for States and Tribes only)

U.S. EPA, State, Tribal, Local Wetlands Protection Grants 104(b)(3) (local agency watershed/wetland protection demonstration projects)

U.S. EPA, Pollution Prevention Leadership Grants (non-profits, local governments, small scale pollution prevention projects, ag pollution prevention)

Federal Clean Water Act Section 205(j) / 604(b) Water Quality Planning Grants

Federal Clean Water Act Section 319(h) Nonpoint Source Implementation Grants

National Fish and Wildlife Foundation, US Fish and Wildlife Service, 2493 Portola Road, Suite B, Ventura, CA 93001

Transportation Equity Act (TEA)

Department of Forestry and Fire Protection: Urban Forestry Grant Program (tree purchase only)

California Department of Water Resources Urban Streams Restoration Program

California Department of Water Resources Environmental Water Program

Cal. Department of Fish and Game Inland Fisheries Division Grant Program (Water quality and riparian habitat improvements would benefit endangered steelhead trout in local creeks which have just been proposed for designation as critical steelhead habitat.)

State Water Resources Control Board: Non-point Source (NPS) Implementation Grant Program

State Water Resources Control Board: Water Quality Management Planning

California State Coastal Conservancy: Watershed Enhancement Program

California Department of Parks and Recreation: Land and Water Conservation Fund Program

California Department of Parks and Recreation: Habitat Conservation Fund Program

County Coastal Resources Enhancement Fund

Regional Water Quality Control Board

State Environmental License Plate Programs

The Resources Agency - Environmental Enhancement and Mitigation Program (Assembly Bill 471, Katz) $10 million annually

Natural Resources Conservation District (Wetlands Reserve Program, Environmental Quality Incentives Program - EQIP, Wildlife Habitat Incentives Program-WHIP)

PRIVATE FOUNDATION AND OTHER GRANTS

World Wildlife Fund: Innovative Grants

California Trails and Greenways Foundation: Greenways Creative Grants Program

Restore America's Estuaries

Southern California Wetlands Clearinghouse (wetlands purchase and restoration)
Abelard Foundation West and Acorn Foundation, c/o Common Cause, 2530 San Pablo Ave, Suite B, Berkeley, CA 94702
Beldon Fund, 2000 P Street, NW, Washington D.C 20036
Arco Foundation, 515 South Flower Street, LA, CA 90071
C.S. Fund, 469 Bohemian Highway, Freestone,. CA 95472
The Chevron Companies, PO Box 7753, San Francisco, CA 94120-7753
The Gap Foundation, One Harrison Street, San Francisco, CA 94105
Flintridge Foundation, 433 N. Fair Oaks Ave., Suite 200, Pasadena, CA 91103
Clarence E. Heller Charitable Foundation, One Lombard Street, SF, CA 94111-1130
Heller Charitable and Education Fund, P.O> Box 336, Kentfield, CA 94914
James Irvine Foundation, One Market Plaza, Spear Tower, Suite 1715, SF, CA 94105
Pew Charitable Trusts, One Commerce Square, 2005 Market Street, Suite 1700, Philadelphia, PA 19103-7017
David and Lucille Packard Foundation 300 Second Street, Suite 200, Los Altos, CA 94022
Surdna Foundation, Inc. 1155 Avenue of the Americas, 16th Floor, New York, NY 10036
Patagonia, Inc.
Strong Foundation for Environmental Values, 116 New Montgomery Street, Suite 220 San Francisco, CA 94105
Town Creek Foundation, Inc., 221 South Street, P.O. Box 159 Oxford, MD 21654
River Network: Watershed Assistance Grant Program
Recreational Equipment Inc., PO Box 1983, Sumner, WA 98390-0800

TAXES AND OTHER FUNDING MECHANISMS

Appropriations From General Funds
Special Districts (e.g. Midpeninsula Open Space District)
Mitigation Funds (e.g. Boneville Power Authority - 1980,) Mitigation Banks
Surtaxes (e.g. Rhode Island - 1987, .01 cents/100 gallons of water for acquisition / restoration of buffer zones to protect water quality)
Real Estate Transfer Taxes
Sales Tax
Cigarette and Gasoline Taxes
Long-term Bonding

See also: Catalogue of Federal Domestic Assistance and the Federal Register for lists of federal grant openings; The Foundation Center, 312 Sutter Street, Room 312, SF, CA 94108; Grant and Resource Center of Northern California, Building C, Suite A, 2280 Benton Drive, Redding, CA 96003; Non-profit Resource Center, Sacramento Public Library 828 I Street, 2nd Floor, Sacramento, CA 95812-2036; California Urban Creeks Council, 2530 San Pablo Ave., Berkeley, CA 94702

For additional information regarding specific the funding sources listed above, please contact Brian Trautwein of the Environmental Defense Center.

VII. CONCLUSION

Santa Barbara County's creeks, watersheds and the ocean are polluted by a variety of contaminants, including fecal coliform bacteria which has repeatedly closed down numerous public beaches to swimming, surfing and water contact activities, and has resulted in numerous reports of potentially related illnesses. The construction of wetlands and bio-filters, and riparian buffer restoration are well documented in scientific and agency literature as key strategies for reducing water pollution. Some efforts have been initiated to restore creeks and wetlands and to build bio-filters, both for required mitigation and solely for environmental enhancement. These efforts need to be expanded to result in meaningful water quality improvement. Institutional changes in local government agencies are recommended to establish internal mechanisms to promote restoration as part of agencies' duties, and to facilitate restoration by non-governmental organizations, individuals and landowners. These changes are expected to increase some costs to local governments over the short to medium term, but these costs would ultimately be offset by the tangible benefits of restoration and wetland construction. Additionally, the short term costs of the comprehensive recommendations made in this report would be at least partially offset by grant sources, and one of the recommendations may result in new income sources for local governments. Therefore, the Riparian and Wetland Restoration Working Group strongly recommends the use of creek and wetland restoration and construction of bio-filters, as outlined in this report, as a proven short to medium term solution to the County's current water quality crisis.

REFERENCES

Association of Bay Area Governments. 1981. The Use of Wetlands for Water Pollution Control.

Association of Bay Area Governments. 1986. *Urban Stormwater Treatment at Coyote Hills Marsh.*

Baker, Lawrence A. 1992. Introduction to Nonpoint Source pollution in the United States and Prospects for Wetland Use. *Ecological Engineering*, 1 (1992), pp. 1-26.

California Coastal Commission. 1996. Procedural Guidance Manual: Addressing Polluted Runoff in the California Coastal Zone.

California Coastal Commission. 1995. Educational Fact Sheets: Summaries of Polluted Runoff Control Strategies and Management Measures.

City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay national marine Sanctuary, Association of Monterey bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. 1998. *Model Urban Runoff Program: A Hot-To Guide for Developing Urban Runoff Programs for Small Communities.*

California Urban Creeks Council. 1998. Creek Currents Newsletter. *Lower Codornices Creek Adopted! How Opening One Block of Culverted Creek Led to Restoration Plans for Eight More Blocks of Degraded Creek.*

Cole, Stephen. 1998. *The Emergence of Treatment Wetlands.* National Small Flows Clearinghouse.

Daukas, Paula, Dennis, Lowry & William W. Walker, Jr. 1989. Design of Wet Detention Basins and Constructed Wetlands for Treatment of Stormwater Runoff from Regional Shopping Mall in Massachusetts, in *Constructed Wetlands for Wastewater Treatment: Municipal, Industrial, and Agricultural.* Hammer, D.A. (ed), pp. 686-694.

Feierabend, J. Scott. Wetlands: The Lifeblood of Wildlife, in *Constructed Wetlands for Wastewater Treatment: Municipal, Industrial, and Agricultural.* Hammer, D.A. (ed), pp. 107 - 118.

Fields, Sherri. Regulations and Policies Relating to the Use of Wetlands for Nonpoint Source Pollution Control. *Ecological Engineering.* 1(1992.) pp.135-142.

Galuzzi, Michael R., P.E., and John M. Pflaum, P.E. 1996. Integrating Drainage, Water Quality, Wetlands, and Habitat in a Planned Community Development, in *Journal of Urban Planning and Development.* pp. 101-109.

Goolsby, D.A., and E.M. Thurman. 1990. Herbicides in Rivers and Streams of the Upper Midwestern United States. Proceedings from 46th Annual Meeting of the Upper Mississippi River Conservation Committee, Bettendorf, IA.

Hammer, D.A. and R.K. Bastian. 1989. Wetlands Ecosystems: Natural Water Purifiers? In *Constructed Wetlands for Wastewater Treatment: Municipal, Industrial, and Agricultural.* Hammer, D.A. (ed), p. 10

Hammer, D.A. 1992. Designing Constructed Wetlands Systems to Treat Agricultural Nonpoint Source Pollution. *Ecological Engineering*, 1(1992), pp. 49-82

Higgins, M.J., C.A. Rock, R. Bouchard, & Wengrezynek. 1993. Controlling Agricultural Runoff by Use of Constructed Wetlands, in *Constructed Wetlands for Water Quality Improvement.* Moshiri, Gerald A. (ed.), pp. 359-367

Hopkins, Ben, and John R. Argue. 1994. *Constructed Wetland Concepts Applied to Urban Landscapes*

Humboldt Water Resources, Engineering and Science. 1998. *Constructed Wetlands: Quick Answers and Frequently Asked Questions*

Johengen, Thomas H., and Paul A LaRock. 1993. Quantifying the Nutrient Removal Processes Within a Constructed Wetland Designed to Treat Urban Stormwater Runoff. *Ecological Engineering.* 2 (1993.) pp. 347-366.

Knight, Robert L. 1992. Ancillary Benefits and potential Problems With Use of Wetlands for Nonpoint Source Pollution Control. *Ecological Engineering*, 1 (1992), pp. 93-113.

Livingston, Eric H. 1989. Use of Wetlands for Urban Stormwater management, in *Constructed Wetlands for Wastewater Treatment: Municipal, Industrial, and Agricultural.* Hammer, D.A. (ed), pp. 253-262.

Meiorin, E.C. 1989. Urban Runoff Treatment in a Fresh/Brackish Water Marsh in Fremont, California, in. 677-685.

Mitsch, W.J. 1992. Landscape Design and the Role of Created, Restored and Natural Riparian Wetlands in Controlling Nonpoint Source Pollution. *Ecological Engineering*, 1 (1992), pp. 27-47.

Olsen, Richard K. 1992. Evaluating the Role of Created and Natural Wetlands in Controlling Nonpoint Source Pollution. *Ecological Engineering*, 1 (1992), pp. xi-xv.

Penfield and Smith. 1995. *Storm Water Quality Study, North Main Campus Storm Drain.* University of California, Santa Barbara.

Regional Water Quality Control Board. 1993. *The Evaluation of point and Nonpoint Sources of Bacterial Contamination in the Santa Barbara Channel.*

Rejmankova, Eliska and David E. Bayer. 1995. *Selection of Native Wetland Plans for Water Treatment of Urban Runoff.* University of California Water Resources Center.

Rodgers, John H., Jr. And Arthur Dunn. 1992. Developing Design Guidelines for Constructed Wetlands to remove Pesticides from Agricultural Runoff. *Ecological Engineering*, 1 (1992), pp. 83-95.

Santa Barbara County. 1998. Draft Environmental Impact Report for the Proposed New Toro Canyon School and Summerland School Closure. State Clearinghouse #97031070. Planning and Development Department, Comprehensive planning Division, Santa Barbara, CA.

Silverman, Gary S. 1989. Development of an Urban Runoff Treatment Wetlands in Fremont, California, in *Constructed Wetlands for Wastewater Treatment: Municipal, Industrial, and Agricultural.* Hammer, D.A. (ed), pp. 669-676.

Stauffer, Julie. 1998. *The Water Crisis: Constructing Solutions to Freshwater Pollution.* pp. 56; 107.

Steiner, Carol, and John Loomis. 1995. *Estimating the Benefits of the Urban Streams Restoration Program.* Colorado State University Department of Agricultural and Resource Economics.

Stormwater Quality Task Force. 1993. California Storm Water Best Management Practice Handbooks.

The Federal Interagency Stream Restoration Working Group. 1989. *Stream Corridor Restoration: Principles, Processes and Practices.*

University of California, Santa Barbara. 1996. *Draft Management Plan for the Campus Lagoon.*

US Department of Agriculture, US Environmental Protection Agency. 1998. *Clean Water Action Plan: Restoring and Protecting America's Waters.*

US Environmental Protection Agency. 1994. Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters.

US Environmental Protection Agency. 1989. Focus on Nonpoint Source Pollution. The Information Broker, Office of Water Regulations and Standards, Nonpoint Sources Control Branch, Washington, DC, November, 1989.

US Environmental Protection Agency. 1989. Managing Nonpoint Source Pollution: Final Report to Congress on Section 319 of the Clean Water Act.

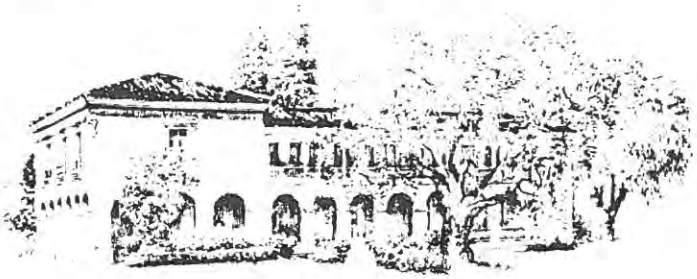
US Environmental Protection Agency. 1984. Nonpoint Source Pollution in the United States.

US Environmental Protection Agency. 1990. National Guidance: Wetlands and Nonpoint Source Control Programs.

US Environmental Protection Agency. 1994. Section 319 Success Stories: A Close Up Look at the Nonpoint Source Pollution Control Program.

US Environmental Protection Agency. 1996. Nonpoint Pointers.

CITY OF SANTA BARBARA



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March 22, 1999

Bill Jacobs, Associate Planner
Planning Division
City of Santa Barbara
P.O. Box 1990
Santa Barbara, CA 93102-1990

Re: Draft Supplemental Environmental Impact Report – ENV97-0573
Santa Barbara Municipal Airport Industrial Specific Plan

Dear Mr. Jacobs:

Thank you for the opportunity to comment on the draft supplemental EIR to the Airport Specific Plan for the Airport Gateway Center. The Airport Department, as property owner and lessor for the subject parcel, has no objections to the supplemental EIR at this time.

The conclusion to the supplemental EIR states that the proposed project at 6100 Hollister Avenue does not increase the significant impacts identified and certified in the original EIR. Further, it states that the proposed project is consistent with the Clean Air Plan, the Santa Barbara County Association of Governments' land use and population projections, and the Air Resources Board vehicle emissions forecasts.

The Airport Department's review of the document was focused on the additional mitigation measures, given the absence of any increase in significant impacts nor any inconsistency with the above mentioned plans or forecasts. Our initial review of the proposed additional mitigation measures AQ-1, BIO-1, CR-1, PS-1, 2, TR-1, and WTR-1 indicates these measures would be consistent with the mitigation measures required earlier as part of the EIR, and/or are measures that would likely have been required at the time of development. Therefore, the Airport Department has no objections to these additional mitigation measures as proposed.

If you have any questions or need any further feedback please contact John Ledbetter, at 692-6023.

Sincerely,

Karen Ramsdell

Karen Ramsdell
Airport Director

Cc: Hazel Johns, Assistant Airport Director
John Ledbetter, Airport Planner

County of Santa Barbara
Planning and Development
John Patton, Director

March 22, 1999

Bill Jacobs
Associate Planner
City of Santa Barbara Planning Department
630 Garden Street
Post Office Box 1990
Santa Barbara, CA 93102-1990

RE: AIRPORT GATEWAY CENTER (SCH# 93081127; ENV97-0573)

Dear Mr. Jacobs:

Santa Barbara County Planning & Development (P&D) strongly supports coordinated City and County review of proposed projects in Goleta. In response to the City's request P&D offers the following comments on the Airport Gateway Center Project and its Supplemental EIR:

Design/Aesthetic Impacts: The site is immediately adjacent to Goleta Old Town and is surrounded by the Goleta Redevelopment Project Area. The project is not consistent with architectural styles adopted in the Goleta Community and Old Town Revitalization Plans. The draft initial study does not discuss the potential impacts of this design/aesthetic inconsistency. Further, a number of Goleta residents have expressed concern over the project's aesthetic impact from Hollister Avenue. 5-1

P&D recommends the City consider design elements that reflect the agricultural history and heritage of Goleta as described in the attached Goleta Old Town Revitalization Plan Aesthetics and Design section (attachment #1). During development of this plan for Old Town, staff received substantial public comments regarding the desire to establish a character and identity unique to Old Town and representative of Goleta's history. It is not adequate to assert that the project reflects "Santa Barbara's" design roots as the project is located in Goleta, immediately adjacent to the Old Town Design District. P&D looks forward to working with the City to address outstanding design issues/impacts.

Regarding frontage, please note that adopted Goleta Community Plan policies require that parking be located at the rear of the development (see attachment #2). Thus the project design is potentially inconsistent with adopted County policy. In addition, replacement of palms at the gateway entrance with an alternative species is recommended as palm trees are inconsistent with Goleta Project Area Committee and the County's adopted vision for the Old Town area. Although landscaping along the Hollister corridor is variable, Jacarandas, Olives, or Italian Stone Pines as found at the University Business Center and the new mall (possibly with limited palm accents) would be more consistent.

Air Quality: The proposed project would create unavoidable and significant impacts to air quality, largely as a result of its auto related air quality emissions. However, this primary air 5-2

quality impact is addressed only through mitigation 3.9-9, which is a future mitigation measure and appears wholly voluntary. This measure does not appear to meet the intent of CEQA to identify feasible and reasonable mitigation measures. In addition, as also discussed below in traffic, the county and MTD are now refining the required transit improvements needed to serve the area (see attachment #3 draft express/ trunk routes and shuttle lines). The annual operating costs of these initial first phase transit improvements will range from $200,000 to $300,000. The project should be required to commit to its fair share funding for operation and maintenance of these improvements at this time. In order to reduce this impact, the following mitigation measures should be required:

"The Airport shall enter into an agreement with the County to contribute funds to the operations and maintenance of improved transit in Goleta. Prior to the issuance of any permits for new development within the specific plan area, the Airport, the City MTD and the County shall enter into an agreement for the annual payment of funds to the County and or MTD to offset the projects air quality and traffic impacts to the maximum extent feasible."

"Prior to the approval of any final permits for expanded development within the specific plan area, the applicant shall submit and the airport and city approve a TDM plan which provides a combinations of incentive for the utilization of alternative transportation and disincentives for the use of single occupancy autos in commuting. Incentives for consideration shall include free preferential parking, free bus passes, lease discounts to fund added employee vacations and/or direct paid bonuses, 9-80 or Tele-commute work schedules, etc. Disincentives for consideration shall include paid parking, etc."

The goal of the above two mitigation measures would be to reduce project peak hour trip generation by 20%, with corresponding discounts in City fee payments to the county if such reductions can be achieved and demonstrated.

Biology: The project's primary impact to biological resources would appear to be increased polluted run-off into the Goleta Slough. Given the project's size, its locations on public land and that such run-off is of increasing local and national concern, P&D recommends a minor redesign to incorporate a "bio swale" such as that employed at the Camino Real marketplace (attachment #4). 5-3

Recreation: The proposed project would create both direct and indirect potentially significant increases in demand for county recreation facilities. Direct demand would be created by new facility employees using county recreation facilities. Indirect demand would occur from new Goleta residents drawn to the area by new jobs. Given the indirect and difficult to quantify nature of "in migration" P&D recommends that the city concentrate its mitigation of impacts to county parks through payment of fees based upon the newly adopted County fee for commercial/ industrial facilities (attachment #5). 5-4

Traffic: As discussed in the original EIR and in the initial study, the project would create significant and potentially unavoidable impacts at Fairview and Hollister. In addition, project generated traffic will also contribute to significant congestion and potential inconsistencies with the adopted county Circulation Element through adding traffic to the Hollister corridor. To partially mitigate these impacts P&D recommends City/ Airport participation in the two new air quality measures outlined above. The City and the county would also need to finalize our ongoing traffic impact fee negotiations. 5-5

This concludes our comments on the draft supplement and initial study. Please forward all final environmental documents, staff reports, and notices to the County in a timely manner to allow County participation in adoption hearings. We would be happy to meet with City and Airport staff to discuss these concerns and attempt to resolve as many of these issues as possible to bring this important economic development project forward to a successful conclusion. Please do not hesitate to contact me at 568-2068 to discuss any of these concerns or to arrange a meeting.

Sincerely,

Dan Gira
Deputy Director

Attachments:
1) Revitalization Plan Aesthetics and Design and Key Site #12 sections
2) Goleta Community Plan DevStd VIS-GV-1.1
3) Example/ draft express/ trunk routes and shuttle lines
4) Camino Real Enhancement and Management Plan, Goleta Old Town
5) AB 1600 Fee Justification Study for Goleta Park Facilities

Cc (w/o attachments):
Gail Marshall, 3rd District Supervisor
Susan Rose, 2nd District Supervisor
Michael Brown, County Administrator
Lansing Duncan, 3rd District Planning Commissioner
Doreen Farr, 2nd District Planning Commissioner
Karen Ramsdell, Airport Director
Jan Hubbel, City Planning Division
Gary Gleason, MTD
Elihu Gevirtz, P&D
Brett Stewart, Public Works
Jonny Wallis, Goleta Project Area Committee
Harlan Greene, Goleta Project Area Committee

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ATTACHMENT #1

Final
Goleta Old Town Revitalization Plan

Adopted by
County of Santa Barbara
Board of Supervisors
on
June 23, 1998

Coastal Commission Submittal

TABLE OF CONTENTS

I. Introduction
- A. Background 1
- B. Setting 2
- C. Project Description 9
- D. Redevelopment Project Area 17

II. Land Use
- A. Residential 19
- B. Commercial 27
- C. Industrial 30
- D. Aesthetics and Design 34

III. Public Facilities and Services
- A. Parks, Recreation and Open Space 49
- B. Police Protection 54
- C. Schools 57
- D. Solid Waste 58
- E. Transportation 59
- F. Water 80

IV. Resources and Constraints
- A. Airport Safety 81
- B. Flooding and Drainage 84
- C. Hazardous Materials 91
- D. Noise 96

V. Key Sites 97

VI. Financing 156

APPENDICES
- A. Landscape Maintenance Agreement
- B. Key Site Property Ownership Table

D. AESTHETICS AND DESIGN

SETTING

The Project Area is set against a backdrop of foothills and mountains of the Los Padres National Forest and is situated among several prominent natural and community features. These include the Pacific Ocean and Goleta Slough, the University of California at Santa Barbara, Goleta's light industrial parks, and the Santa Barbara Municipal Airport. In general, age, high densities and lack of public or private investment have resulted in the deterioration of buildings and the visual environment. The area lacks any substantial landscaping, street trees, planters, or other aesthetic amenities. Unscreened industrial areas, open storage yards and junk yards are visible from travel corridors and aircraft flying into Santa Barbara Airport.

The downtown Hollister corridor forms the primary visual impression for the Old Town area. The commercial core includes small to mid-size businesses, restaurants, car lots, and a community center all in a mix of architectural styles ranging from Spanish to Victorian, Craftsman, and 1960s modern. Existing development is generally older with some deterioration and/or lack of continuity. Narrow sidewalks, lack of pedestrian amenities, the absence of landscaping, and congestion on Hollister Avenue tend to detract from Old Town's aesthetic quality.

Development north (primarily residential) and south (commercial and industrial) of Hollister Avenue includes newer/well maintained construction but is generally characterized by lack of visual continuity, with substantial areas of aging and deteriorating buildings. Pockets of inadequate general commercial/service industrial development both north and south of Hollister suffer from a lack of maintenance, parking, and landscaping. Residential uses occur within several defined neighborhoods and also include a substantial amount of units in non-residential zone districts.

The eastern portion includes both older and recent light industrial uses, commercial retail/office, and medium-to-high density residential uses. The western area includes commercial/industrial uses in buildings constructed mainly from 1960 through the early 1980s. Development includes metal sided warehouses, storage yards, small to medium-sized commercial buildings, and older tilt-up concrete light industrial buildings. Open space in the Project Area is minimal. Visual relief from the urban environment is provided by the riparian corridors of Maria Ygnacia, San Pedro, San Jose and Old San Jose Creeks, all which meander southward to the Goleta Slough.

PLANNING ISSUES

An important aspect of any community is a downtown identity, and Goleta in general lacks this identity. While some areas of Goleta are predominately retail, there is no one centralized location where people gather and spend time doing business, shopping, and seeking entertainment. The

Hollister corridor through Old Town was at one time the focal point of Goleta. A visually pleasing and pedestrian friendly atmosphere along the Hollister corridor would help to reestablish this as an important community resource.

A vital component in creating a pedestrian friendly atmosphere is the presence of an interesting, attractive, and cohesive visual environment. Visual unity can be realized by providing a clear identity and sense of location, and by introducing thematically related streetscape, signage and pedestrian amenities. Design standards and architectural guidelines developed as part of the Heritage District (Figure 9) ensure implementation of the urban design components of the Revitalization Plan. When combined with major streetscape, parking and pedestrian oriented business improvements, renovation of deteriorating buildings and traffic calming would help achieve an attractive and inviting village setting.

Also critical to maintaining a pleasing and inviting atmosphere is the design, installation and long-term maintenance of area landscaping. The policy sections below contain several development standards which direct how project landscaping is to be conceived and installed. Development Standard VIS-OT-3.4 requires that this landscaping be maintained on an on-going basis. All new developments which require a landscape plan will be required to enter into a Landscape Maintenance Agreement (an example is included as Appendix A). This agreement requires a basic level of maintenance by the owner and allows the County to step in and maintain the landscape if necessary and bill the owner for the cost of the work.

PUBLIC IMPROVEMENTS

The following improvements are proposed in order to inspire a clear and unique Old Town village identity and to create an attractive, inviting and cohesive visual environment.

1. Hollister Avenue Reconstruction: Improving Hollister Avenue would provide a more appealing downtown atmosphere by calming traffic flow, adding and improving parking and creating a whole new streetscape to create a pleasing shady active pedestrian atmosphere. Preliminary plans include four travel lanes, onstreet parking, bike lanes, pedestrian-activated crosswalks, public walkway beautification, wider sidewalks, public transit stops and shelters, street trees and planters, a landscaped center median and streetscape pedestrian amenities. ***Estimated Cost: $6 million.***

Goleta Old Town Heritage District

2. South Fairview Beautification: This project will include construction of an already funded Class I bikepath on S. Fairview Avenue between Hollister Avenue and Fowler Road, major landscape improvements including restoration of San Pedro Creek, and frontage improvements (curb, gutter and sidewalks) where appropriate. ***Estimated Cost: $415,000***

3. Revolving Loan Fund: This program would provide low interest loans to property owners for renovation of housing or businesses. Funded through federal grants or redevelopment revenues, these loans would be available for building renovation (expansion, facade improvements), streetscaping (landscaping, street furniture), and infrastructure improvements (parking lot reconfiguration) all of which would improve the visual quality of the Project Area. ***Estimate: Variable***

4. Gateways to Old Town: Gateways to announce the entrance to and exit from Old Town are proposed in the vicinity of the Fairview and Kellogg intersections on Hollister Avenue. Their purpose would be to create a visual statement of location and contribute to the sense of community. Gateway design, which should reflect the unique identity and character of Old Town, will be developed with community input as part of Hollister Reconstruction design work or preparation of Heritage District Design Guidelines. ***Estimated Cost: $500,000***

5. Street Trees: Several roadway improvements outlined in the transportation section would include installation of street trees and other landscaping. In addition to the Hollister Avenue reconstruction which would provide a landscaped center median and sidewalk plantings, these improvements include construction of the Fowler Road extension, construction of a new southern travel corridor at Ekwill and conversion of State Route 217 to a landscaped expressway. ***Estimated Cost: $600,000 for Fowler, Ekwill and State Route 217; included in Hollister reconstruction***

There are a number of other public improvements which are proposed within the Project Area which would collectively enhance the visual character of Old Town. These include the Hollister/ Kellogg public park, San Jose Creek bikepath, and the Old San Jose Creek multi-use trail. Private development which is likely to occur as a result of revitalization would also significantly increase aesthetic values in Old Town. In particular, renovation of the Airport Plaza center, development on the former mobile home park site on Key Site 4, and removal of auto wrecking yards on Key Sites 7a, 7b and 8 to accommodate future development would benefit the visual environment.

POLICIES

GOAL: To promote an attractive and economically vital Goleta Old Town that will become the visual, cultural and social focus of the Goleta Valley through the preservation and enhancement of the Valley's agricultural history, the creation of a pleasing and safe pedestrian-oriented environment, the promotion of superior architectural design and construction, the reduction of dependence on the automobile, and protection of the privacy of neighboring residential uses.

Policy VIS-OT-1: Through its discretionary and design review process the County shall improve the quality of the environment and buildings in Old Town. The sense of community and preservation of the historic value of the downtown area should be preserved and enhanced.

Action VIS-OT-1.1: The County shall work with the Goleta Old Town PAC and other interested citizens to form a committee within six months of adoption of this Plan to draft the Heritage District Design Guidelines. This committee shall include a mix of local residents, local business owners and, if feasible, design professionals and should include input from the County Board of Architectural Review (BAR).

DevStd VIS-OT-1.2: All parcels within the Heritage District boundaries shall adhere to the Heritage District Guidelines once they are adopted.

Action VIS-OT-1.3: The County shall work with the Goleta Old Town community to form a local advisory committee to review development and landscape plans for sites within the Old Town area to ensure consistency with the standards of this Plan.

DevStd VIS-OT-1.4: Site design shall include an analysis of existing conditions on and adjacent to a site. The analysis shall include an examination of the site's physical properties and natural features, amenities, special problems, and neighboring environment. Development proposals shall demonstrate an effort to incorporate significant existing natural features into the project design. Site layout shall demonstrate compatibility and integration with neighboring properties.

Action VIS-OT-1.5: Gateways to Old Town shall be created on Hollister Avenue at or near Fairview and Kellogg Avenues in order to identify a distinct and unified downtown area.

DevStd VIS-OT-1.6: Street lighting on Hollister shall be cohesive, designed to provide ambiance, safety and security, and shall balance energy efficiency with aesthetic concerns.

DevStd VIS-OT-1.7: Nighttime building and window illumination shall be energy efficient and help light the street, parking and sidewalk areas, creating a safe environment and adding visual interest. Harsh or direct light shall be avoided. Security lighting within or adjacent to residential and open space/park areas shall be shielded to minimize the spread of light.

Policy VIS-OT-2: **A high-quality pedestrian environment shall be created in the downtown area. Pedestrian needs shall be assessed and creative approaches to improving pedestrian interest, access, and enjoyment shall be developed.**

Action VIS-OT-2.1: Sidewalks shall be safe in terms of width, design, and condition. Trees and awnings shall be used to provide solar protection as necessary on Hollister Avenue.

Action VIS-OT-2.2: Pedestrian interest should be maximized by creating attractive, human-scale building frontages with inviting indoor and outdoor spaces visible from the sidewalk and street.

Action VIS-OT-2.3: Buildings and establishments where goods and services are not offered should contain at least passive elements focused to the pedestrian. These may include architectural detailing, art, landscaped areas, etc.

Policy VIS-OT-3: **Visual interest in the Old Town area shall be stimulated through creative and extensive use of landscaping.**

Action VIS-OT-3.1: The County Planning & Development and Public Works Departments shall identify funding for installation and maintenance of landscaping for Hollister Avenue, S.R. 217, and the Ekwill Street and Fowler Road extensions, including the use of available revitalization funds, CDBG funds, habitat restoration grants/funds, coordination with private developments, airport funds, etc.

Action VIS-OT-3.2: The County shall pursue property owner-funded methods (e.g., a Business Improvement District consisting of business and property owners) to assist the County in the long-term maintenance of improvements associated with the Hollister corridor reconstruction project.

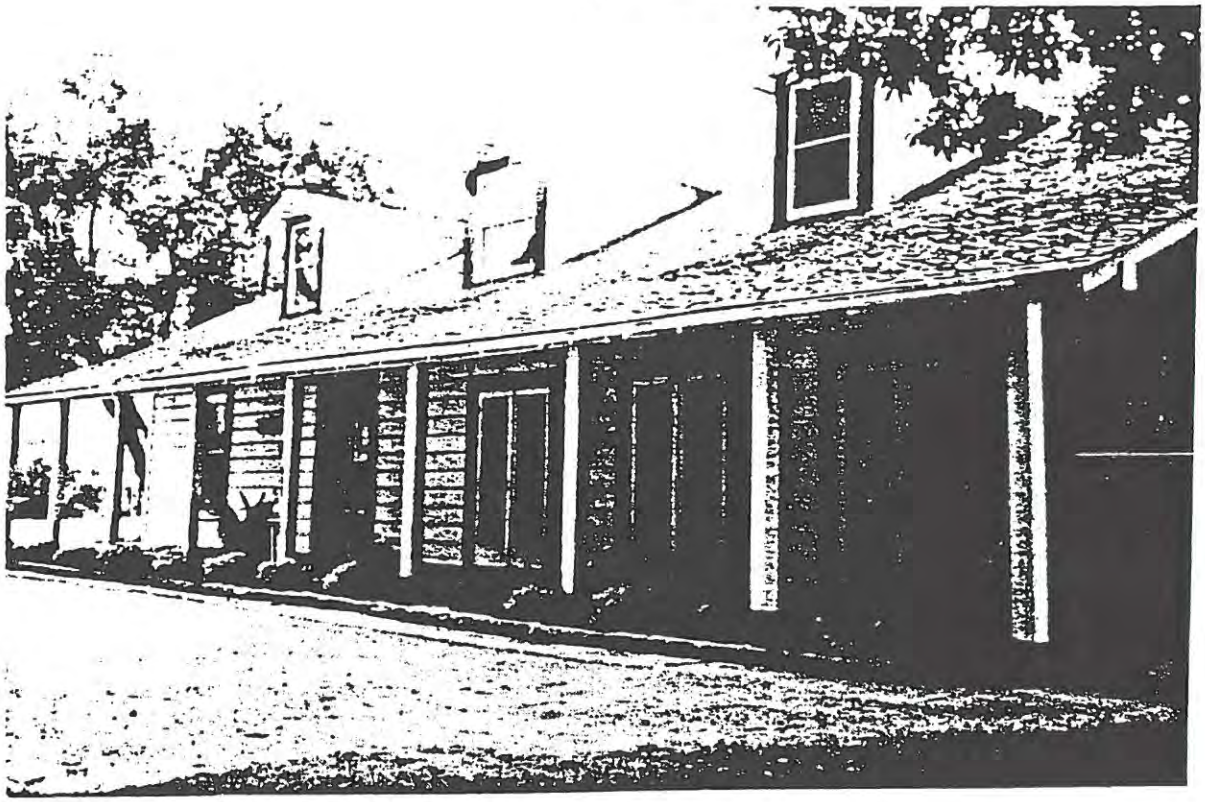
DevStd VIS-OT-3.3: Landscaping within surface parking areas shall include internal planting to develop tree canopies that soften the visual impact of the lots and provide relief from heat build-up. Trees which have a spreading shape to maximize shade shall be emphasized. Vertical shaped trees shall be avoided except as accent trees near buildings. Grade changes, berms, and/or low walls can also be used to provide screening.

DevStd VIS-OT-3.4: Prior to receipt of a certificate of occupancy on projects requiring a landscape plan, the owner shall record a Landscape Maintenance Agreement with the County which shall require maintenance of project landscaping in perpetuity.

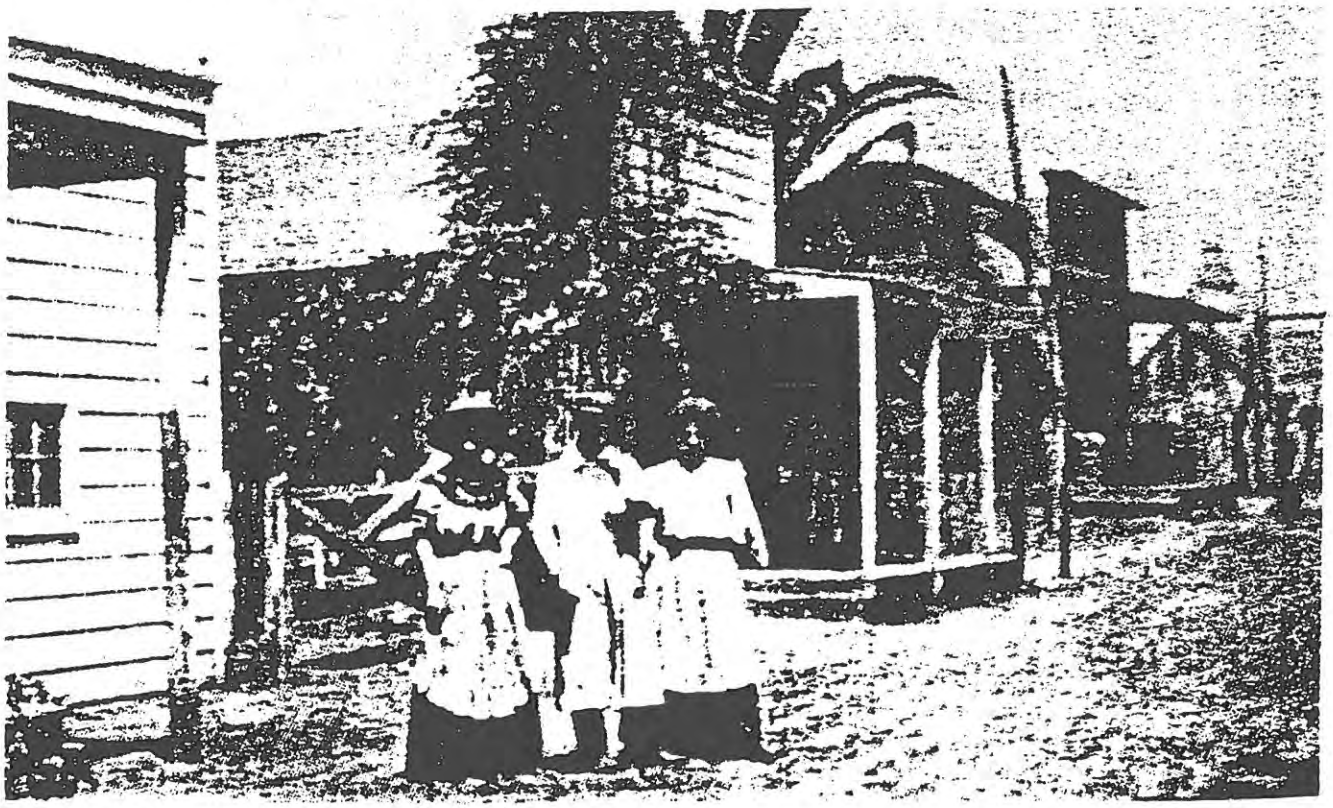
HERITAGE DISTRICT DESIGN STANDARDS

Inspired by photos of historic Goleta structures (Figures 10,11,12,13), provided in Justin Ruhge's book *Looking Back*, a conceptual elevation of Goleta Old Town was drafted by Mark Shields (Figure 14) and the following Heritage District Design Standards were developed as a preliminary step to developing detailed design guidelines.

The Goleta Old Town Heritage District Design Standards are intended to guide both public and private development of prominent Old Town parcels. They were developed in order to enhance the image of Old Town, ensure development of a distinctive and unified streetscape, and contribute to a more pedestrian oriented downtown area. Their implementation is expected to provide a distinctive and unifying visual environment that residents, business owners and visitors will appreciate.

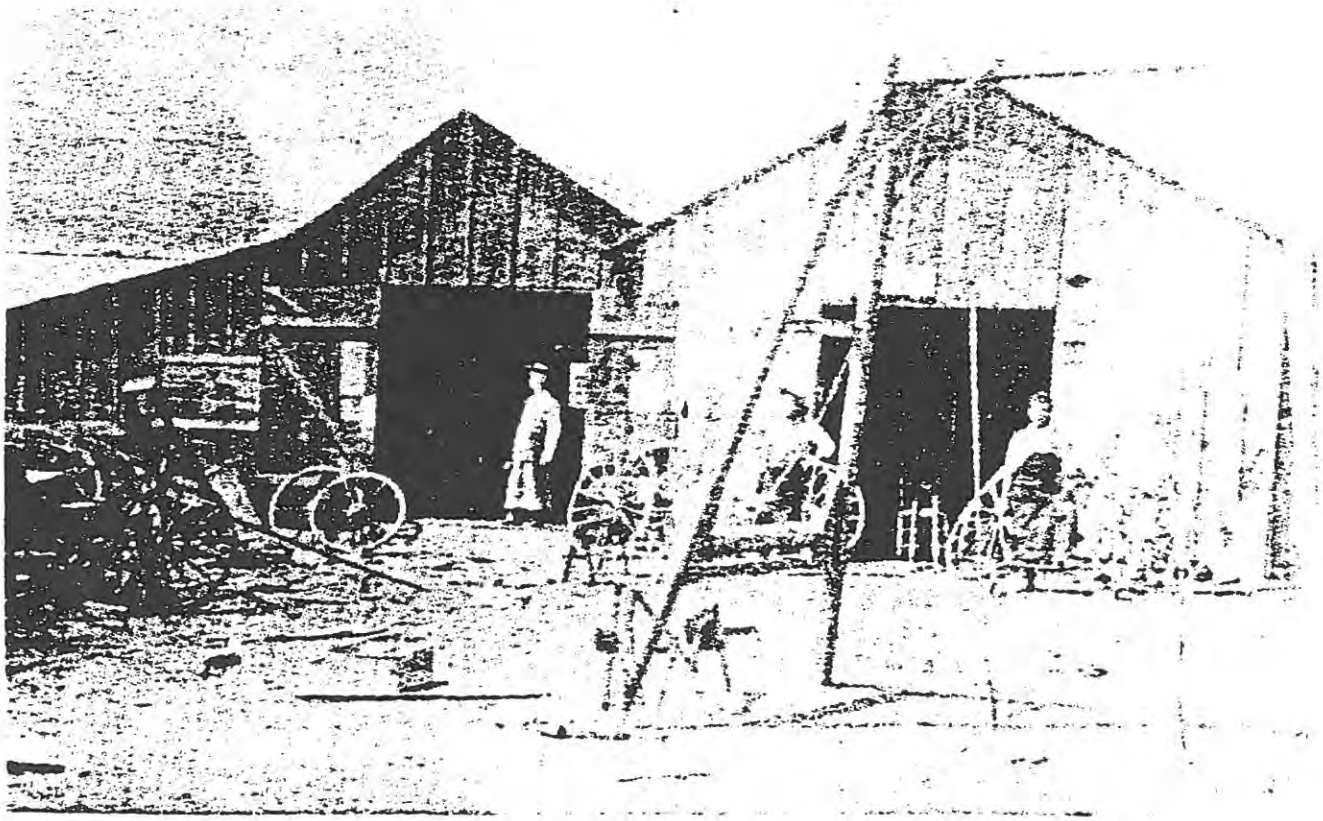


Hill Adobe, the second oldest building in Goleta, as it appeared in 1989. - Photograph by the author.



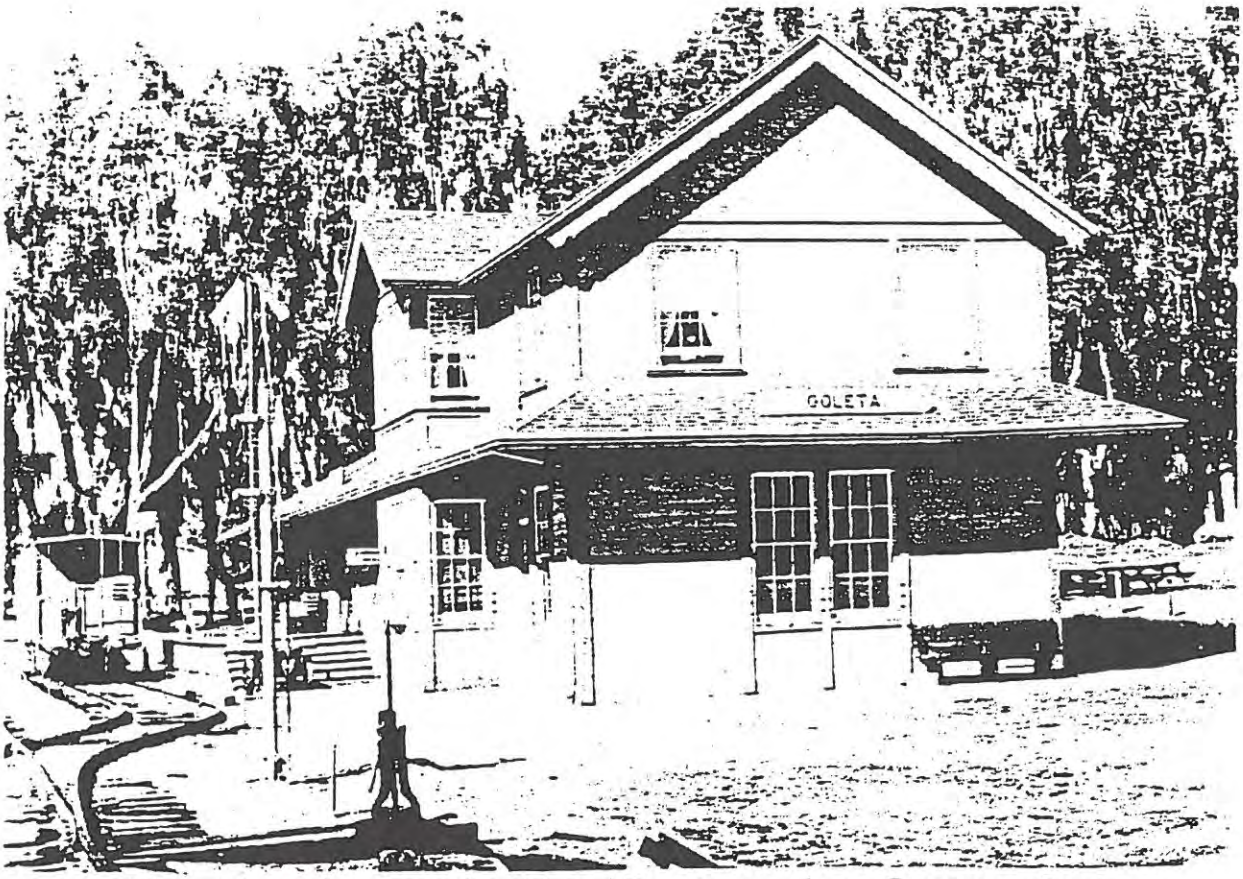
The "main street" of Goleta in the 1880s. - Photograph courtesy of Goleta AMVETS, Post 55.

Stow House, built in 1872, is one of six original houses in the Goleta Valley that have been restored and maintained. - Photograph courtesy of Harvey Green.

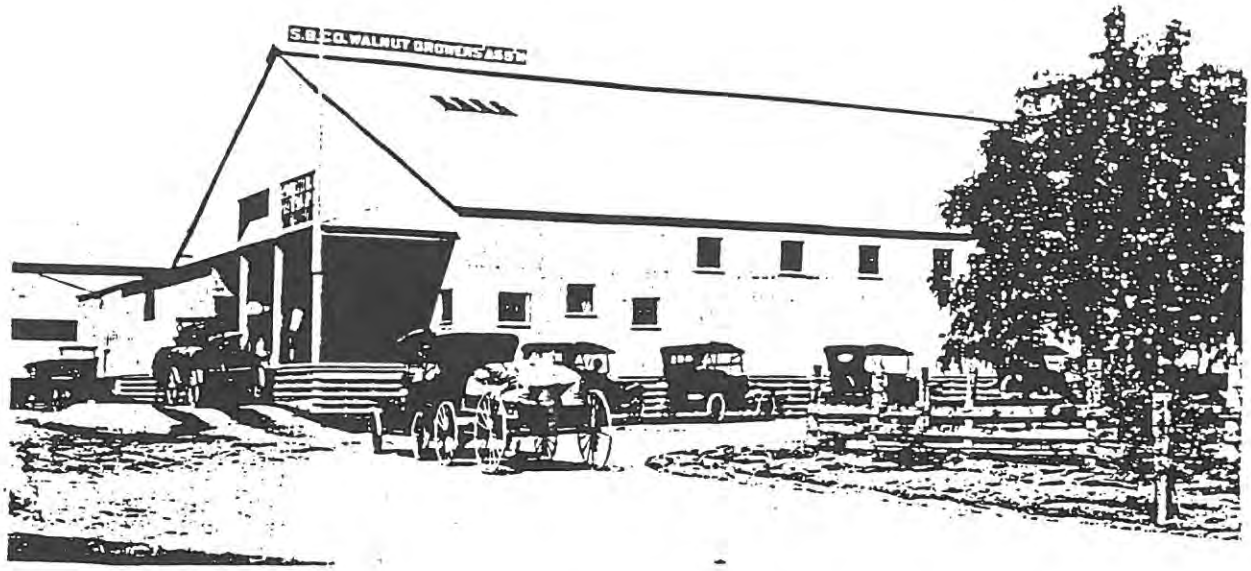


Hiram Hill's blacksmith shop at the corner of present-day Fairview and Hollister, circa 1870. - Photograph courtesy of Goleta AMVETS.

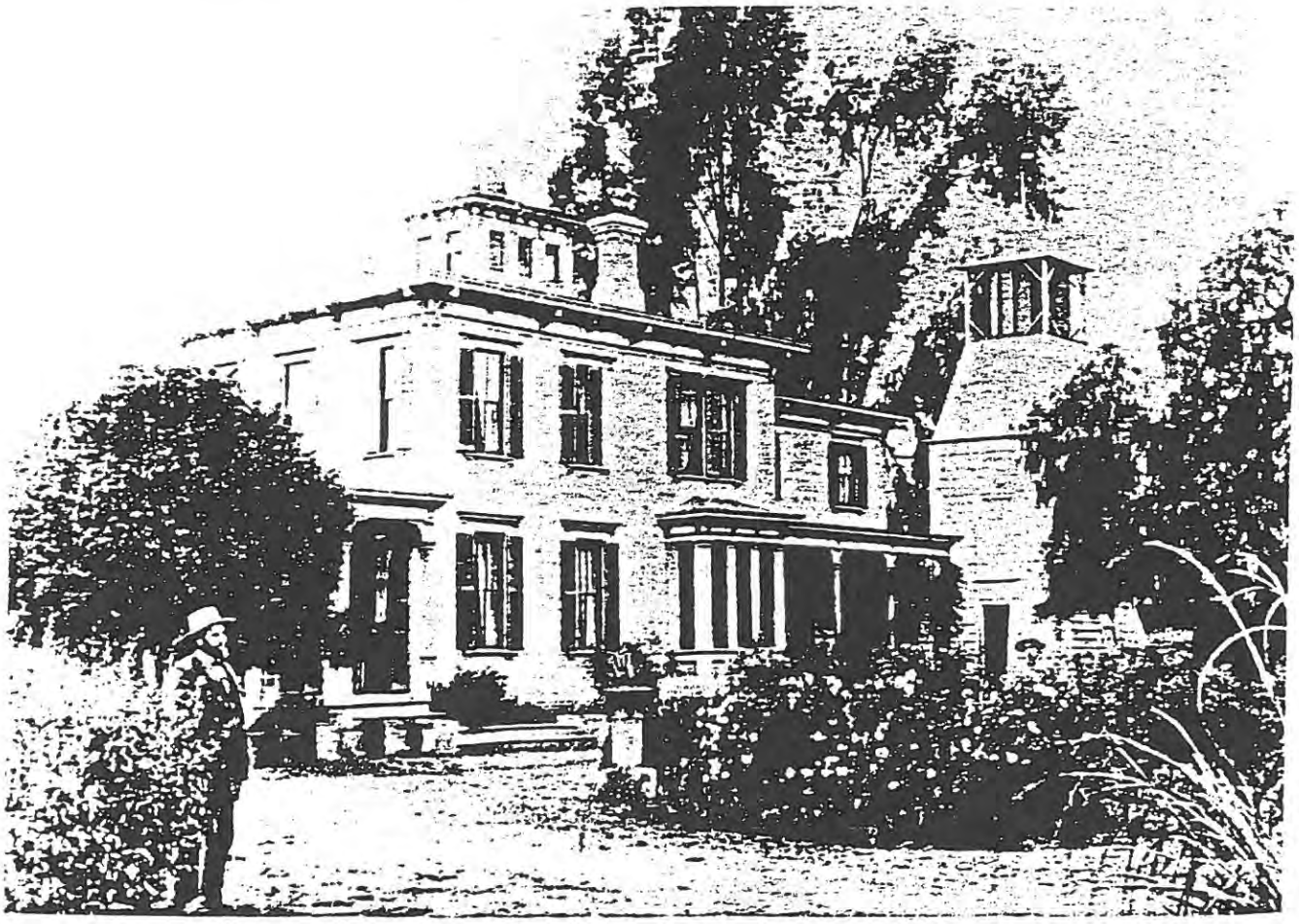
The Cathedral Oaks School became a nursery school at the same location. - Photograph by the author.



Relocated and restored Goleta Depot on Los Carneros Road. - Photograph courtesy of Goleta Valley Historical Society.



Walnut house on Kellogg, circa 1917. In the background is the lima bean growers' warehouse. - Photograph courtesy of California Walnut Growers' Association.



Joe, in left foreground, and Lucy Sexton, right, standing in the rose garden in front of the Sexton House. - Photograph courtesy of

Goleta Old Town Hollister Corridor - Conceptual Elevation

Mark Shields 1996

Figure 14

GOAL: To enhance Old Town's identity and sense of place.

Policy VIS-OT-4: Site planning within the Heritage District shall promote buildings and renovations that strengthen the urban character of the area and support a pedestrian-oriented and diversified retail niche.

DevStd VIS-OT-4.1: For parcels that have Hollister frontage, new structures shall be built without setback from the front property line. Exceptions may be granted if it can be clearly demonstrated that the pedestrian character of the sidewalk and street frontage will be better maintained and enhanced by the alternative design. Examples of such exceptions would include setbacks for front yard patios and courtyards that enhance pedestrian access to retail commercial areas.

DevStd VIS-OT-4.2: Entryways to stores shall be recessed for visual interest and to minimize doors swinging into the sidewalk except where good architectural design dictates otherwise.

DevStd VIS-OT-4.3: Overall building shapes and heights should be compatible to and in scale with existing structures on the same site and in the surrounding neighborhood. Where the proposed structure is taller than existing adjacent structures, the following techniques, or other comparable techniques, shall be required to make the structure compatible:

- increase building setbacks on sides or rear
- stepped upper floors
- utilize roof types which minimize building mass at the perimeter (hip and flat roofs)
- architectural treatments such as varying building materials, window sizes and color.

DevStd VIS-OT-4.4: Site layout, building height and roof pitch shall respect the privacy and solar access of adjacent residential parcels. Structures shall be located and designed to avoid placement of windows, decks, and balconies which look directly onto private areas of adjacent property.

DevStd VIS-OT-4.5: Small pedestrian alleyways and promenades are encouraged.

DevStd VIS-OT-4.6: Loading and service areas shall be located behind buildings and shall be screened from view from public streets, pedestrian areas, alleys and neighboring properties. If site conditions do not permit locations away from any of these uses, design features such as walls and landscape buffer zones shall be utilized to conceal these areas from predominant view.

DevStd VIS-OT-4.7: Trash containers and outdoor storage areas shall be screened from view from public streets, pedestrian areas, alleys and neighboring properties. The screen for trash containers shall be designed to be compatible with the architectural character of the development and be of durable materials.

DevStd VIS-OT-4.8: Roof-mounted equipment is discouraged. When such equipment is necessary, it shall be screened from view from roads, adjacent properties, and pedestrian areas.

DevStd VIS-OT-4.9: New parking shall be constructed on rear and side portions only of sites which front Hollister Avenue. Access driveways from the street to the rear of a building are acceptable if access is unavailable from sidestreets or alleys

Policy VIS-OT-5: Superior architecture shall be used to create a visually unified environment without destroying diversity and historical context.

DevStd VIS-OT-5.1: Architecture shall contribute to the agricultural history and heritage of Old Town. The following elements are encouraged to achieve this goal:

- western agricultural architectural imagery
- front porches with columns
- gabled roofs of varying shapes and pitches
- second floor balconies overlooking the street
- use of natural color and materials (i.e. integral colored plaster, colored metal roofs)
- wood siding where appropriate to provide accent
- architectural detail and ornamentation that enrich buildings and exhibit craftsmanship.

DevStd VIS-OT-5.2: Architecture shall contribute to a pedestrian friendly environment. The following design elements shall be incorporated in order to achieve this goal: applied and articulated three dimensional forms, human scale entries, large display windows incorporated with large door openings to merge interior and exterior spaces, and building massing which is articulated with one, two and three story variations in vertical building height.

DevStd VIS-OT-5.3: Large or long continuous wall planes shall be avoided. Buildings over 50 feet in length shall divide their elevations into smaller parts by providing a change of plane, projection, recess surface texturing, or paint and shall reduce bulk and mass with the use of landscaping.

DevStd VIS-OT-5.4: Neutral or soft colors shall be provided on all large wall surfaces (light gray, cream, beige, tan. light blue, etc.), while brighter or deeper shades can be utilized as trim colors.

Policy VIS-OT-6: **Streetscape and pedestrian amenities shall be used to create an attractive and visually unifying environment and shall include creative approaches to enhancing pedestrian interest, access and enjoyment.**

DevStd VIS-OT-6.1: Street furnishings and pedestrian amenities such as benches, planters and trash receptacles are encouraged in all new development proposals. Furnishings shall be consistent with Old Town's architectural theme and character and shall be consistent with the Heritage District Design Guidelines. Genuine materials shall be utilized however, high quality representations made from recycled materials may be included.

Policy VIS-OT-7: **Visual interest in the Old Town area shall be stimulated through creative and extensive use of landscaping designed to create an attractive, unified and comfortable outdoor environment for pedestrians and to enhance public roadway corridors and road medians.**

DevStd VIS-OT-7.1: Landscaping shall serve to screen and soften the massing and expanse of large buildings and parking areas as viewed from offsite and onsite.

DevStd VIS-OT-7.2: At parking lot edges, landscaping shall be designed to screen parked vehicles from offsite through the use of berms and dense shrubbery in addition to the regular hierarchy of streetscape landscaping.

DevStd VIS-OT-7.3: At a minimum, all parking areas shall be landscaped with a consistent canopy of broad-spreading trees to reduce glare and heat, to provide the broad spaces between buildings with a landscaped character (in commercial areas), and to connect other landscaped areas.

DevStd VIS-OT-7.4: Parking lot landscaping shall emphasize durability, low maintenance requirements, and minimal water consumption.

Policy VIS-OT-8: **Signs shall be used to maintain and enhance the overall charm and character of Old Town.**

DevStd VIS-OT-8.1: Distinctive, finely crafted signs oriented to pedestrians and automobiles shall be used.

DevStd VIS-OT-8.2: Sign styles and colors shall be in character with the architecture of the related building and compatible with the signs of adjoining premises.

DevStd VIS-OT-8.3: Business addresses shall be visible to pedestrians and automobiles along the Hollister corridor.

Key Site #12 Hollister Corridor

This 48 acre site includes both sides of Hollister Avenue between Fairview Avenue on the west and State Route 217 on the east. It is comprised of 73 parcels ranging in size from 2,614 s.f. to 9.84 acres, with 55 separate owners. It consists of 455,000 s.f. of development in 68 separate buildings; 59 of which are one story, 8 two story and 1 three story. Land use designations include Residential 10.0, Residential 4.6, Multiple Residential, and General Commercial. Zoning is Design Residential (DR-10) (DR-16), Single Family Residential (7-R-1), Professional and Institutional (PI), Retail Commercial (C-2), and General Commercial (C-3). Development on-site consists of 15 automotive related businesses, 15 restaurants, 5 markets or convenience marts, approximately 45 residential units, and a variety of other retail, commercial, and office uses. Surrounding uses include residential development to the north, a mix of residential, industrial and commercial uses to the south, Fairview Avenue to the west and SR 217 to the east. Most of the site lies within the combined 100-year floodplains of San Jose, Old San Jose and San Pedro Creeks. The ***floodway*** of San Jose Creek occupies approximately 4.5 acres along both sides of the creek north of Hollister Avenue. Historic structures include The Natural Cafe, the Goleta Valley Community Center and Santa Cruz Market (Figure 35).

As Old Town's primary retail corridor and downtown, revitalization efforts will focus primarily on improving the commercial atmosphere and visual appearance of the area. Efforts will also focus on facilitating mixed-use development with additional housing and office space along the Hollister corridor. Mixed-use projects allowing people to live and work in the downtown area will increase the customer base for businesses, as well as safety of the area through an increased 24-hour presence of local residents. An important component in creating an attractive atmosphere for pedestrians is the presence of an interesting, attractive, and cohesive visual environment. Heritage District design guidelines provide for a unifying architectural theme and, combined with other streetscape improvements, will help reestablish the Hollister corridor as a centralized location where people gather and spend time doing business, shopping, and seeking entertainment.

The Hollister corridor currently projects an image of being unfriendly to pedestrians and unsafe for cyclists. Although Hollister Avenue will remain 4 lanes with on-street parking, safety for pedestrians and bicyclists can be enhanced by slowing traffic to a steady 25 m.p.h. instead of the 40 m.p.h. which is common today, possibly prohibiting truck traffic, and the provision of bike lanes. The Plan calls for the complete redesign of the Hollister corridor, and other improvements include providing additional on and off street public parking, landscaped center medians, wider sidewalks with planter boxes, bus stops, signalized pedestrian cross walks and other road and streetscape design improvements. These public infrastructure improvements should also stimulate private sector redevelopment of properties along the corridor.

The following Development Standards apply to new development within Key Site 12.

DevStd KS12-1: The design, scale, and character of project architecture, landscaping, and signage shall be compatible with vicinity development, particularly the Community Center. As the social and visual "heart" of Old Town, the Community Center shall be considered the focal point and future projects should strive to be compatible. In addition, development shall be consistent with architectural design standards set forth in the Heritage District section in the Aesthetics and Design section of the Plan.

DevStd KS12-2: The design and layout of development shall provide maximum opportunity for pedestrian access throughout parcels in a manner that minimizes conflicts with vehicular traffic. Where feasible, new development shall include attractively landscaped pedestrian entries from adjacent roadways, with attractively treated surface walkways, complementary to the sidewalk scheme of Hollister Avenue and linking existing sidewalks/paths with the internal pedestrian circulation of individual parcels.

DevStd KS12-3: Development on the site shall use existing driveways along Hollister Avenue and where feasible, driveways shall be shared by adjoining properties. No additional access points/driveways shall be constructed off Hollister Avenue, unless this would preclude reasonable use of a parcel.

Action KS12-4: Delivery trucks shall be prohibited from exiting businesses via the residential areas north of Hollister Avenue. Planning and Development shall work with Public Works to study whether it is feasible to preclude through truck traffic north of Hollister, between SR 217 and Fairview Avenue. If such a prohibition is deemed feasible, County Public Works shall post signs prohibiting truck traffic in these areas and directing trucks to appropriate travel routes.

Action KS12-5: To slow traffic speeds in residential areas, County Public Works Department shall consider the construction of traffic calming features such as speed humps, islands and curb extensions.

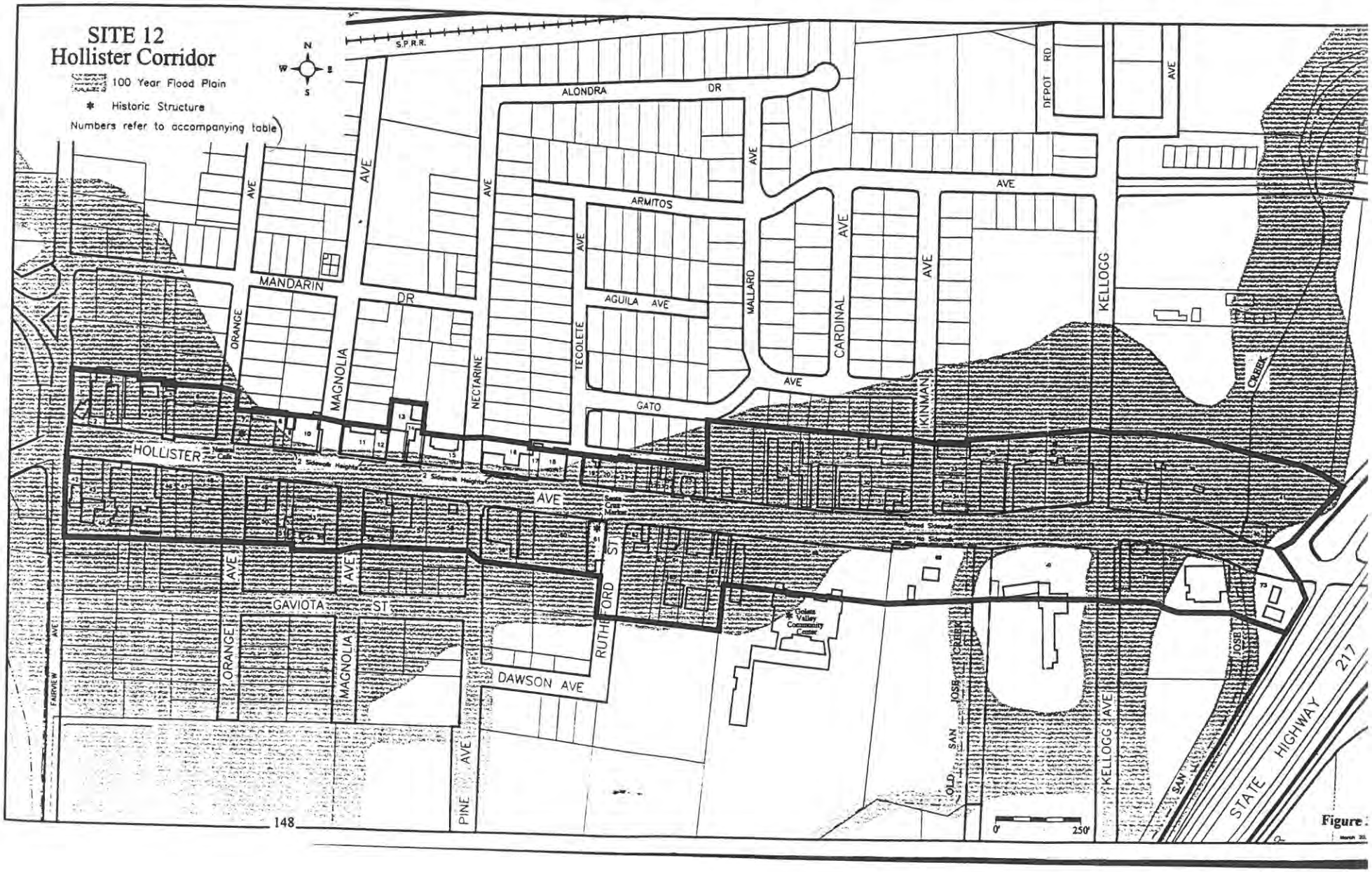
Program KS12-6: The County Planning and Development and Public Works Departments shall coordinate to develop and implement a parking plan to reconfigure and consolidate existing private lots into public lots through long term cooperative lease agreements or purchase. The plan shall include the location and design of clearly marked signs showing lot locations.

Program KS12-7: The County Planning and Development and Public Works Departments shall work with the public and property owners to develop final conceptual plans for reconstruction of the Hollister Corridor within one year from plan adoption. These plans should include addition of bike areas (travel corridors), onstreet parking, public walkway beautification, pedestrian activated crosswalks (particularly in front of the Community Center), strategies such as narrowed travel lanes to limit traffic speeds to no greater than 25 m.p.h., a possible prohibition of through truck traffic on Hollister Avenue between Kellogg Avenue and Fairview Avenue, wider sidewalks, gateways, public transit stops and shelters, street trees and planters, a landscaped center median, and streetscape pedestrian amenities.

Action KS12-8: Planning and Development shall pursue grants for planning, design and implementation of the Hollister reconstruction project with the goals of breaking ground in 1999-2000, and a timely completion to minimize impacts to residents and businesses.

DevStd KS12-9: At the time of application approval, property owners along the proposed San Jose Bikeway shall be required to dedicate an easement to the County for the San Jose Bikeway. If the properties are not developed in a timely fashion, the County should pursue funding to acquire the space for the proposed bikepath. The bikepath shall be integrated with the internal circulation plan and landscape plan and shall connect with the proposed bikeway network for Goleta Old Town.

DevStd KS12-10: Development on this site shall be reviewed for landscaping along Hollister Avenue, including pedestrian access and landscaping, with strategically placed street trees, on Hollister frontages and a center median on Hollister Avenue. The median shall be constructed and landscaped with street trees, shrubs, and groundcover acceptable to County Public Works, and P&D. Trees shall be of sufficient height at maturity and spacing to provide a partial canopy over Hollister Avenue without blocking business signs. Landscaping shall be maintained in accordance with DevStd VIS-OT-3.4 or until such time as a funding district is established.


SITE 12
Hollister Corridor
100 Year Flood Plain
Historic Structure
Numbers refer to accompanying table
N
W
E
S
S.P.R.R.
ALONDRA DR
ARMITOS
AGUILA AVE
GATO
MANDARIN DR
ORANGE AVE
MAGNOLIA AVE
NECTARINE AVE
TECOLETE AVE
MALLARD AVE
CARDINAL AVE
KINMAN AVE
KELLOGG AVE
DEPOT RD
HOLLISTER AVE
GAVIOTA ST
DAWSON AVE
RUTHERFORD ST
PINE AVE
FAIRVIEW AVE
Golden Valley Community Center
OLD SAN JOSE CREEK
STATE HIGHWAY 217
0'
250'

Figure

DevStd VIS-GV-1.1: Setbacks, landscaping, and structural treatments shall be emphasized along major roadways to help preserve viewsheds and create an aesthetic visual corridor. Parking lots and other impervious surfaces should be placed in side and rear, rather than frontage, areas in all development along roadways.

Program VIS-GV-1.2: The County shall consider developing architectural guidelines for residential development with input from interested neighborhood groups. Such guidelines could address issues such as building profile, encouraged colors and landscaping materials and design.

Action VIS-GV-1.3: When funding becomes available, the County shall provide landscaping of the Hollister Avenue corridor and shall coordinate with CalTrans to complete the landscaped median on US 101 and to landscape the southern right-of-way area.

Policy VIS-GV-2: **All new development projects along the Hollister Avenue corridor shall be reviewed by the County Board of Architectural Review. Structural development along Hollister Avenue should minimize impacts on existing view corridors from the Hollister corridor.**

Policy VIS-GV-3: **Maintenance and expansion of Goleta's tree population shall be a high priority in the Goleta planning area. The County shall encourage projects which expand onsite and offsite provision of appropriate tree plantings, both in terms of quantity and species diversity.**

Action VIS-GV-3.1: When funding is available, the County shall develop and implement a street tree planting program and a general landscaping program for the public and private right-of-way areas of Goleta. The following items shall be incorporated into the County's street tree planting and general landscaping program:

a. The Programs shall include the residential and commercial areas of Goleta;

b. Street tree designations shall be designed to enhance view corridors;

c. The use of native drought tolerant plants shall be incorporated into the Programs;

Example/draft

Old Town/Airport/UCSB Electric Shuttle

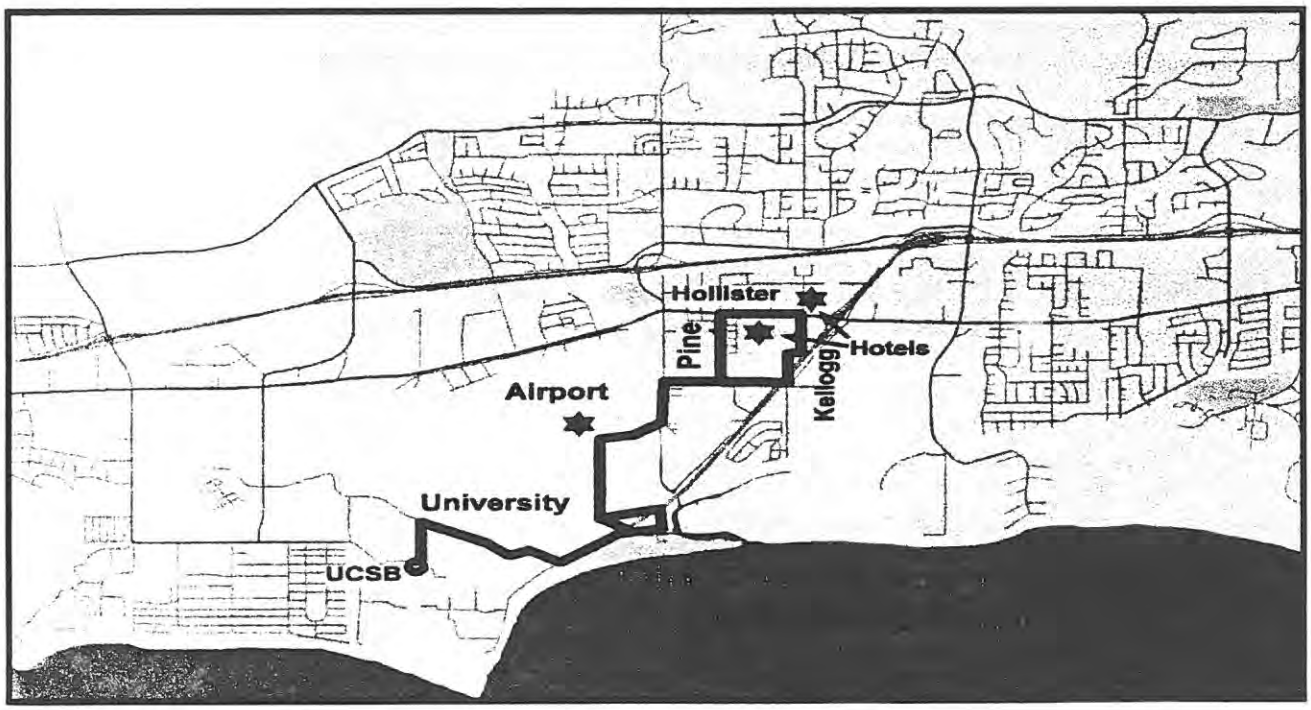
This new shuttle route will provide direct access between the redeveloped Goleta Old Town, the Airport, Goleta Beach and UCSB. The Airport will be linked with short trip service to new hotels and commerce in Old Town to the east, and the University to the west. Visitors, commuters, students and shoppers alike will benefit from the convenience of the shuttles. The service between the airport and old town will be facilitated by the new Patterson/Ekwill road extension over to Fairview. Service for the airport will board and depart from the airport driveway, directly in front of the terminal. Passengers will board and depart UCSB at the new ceremonial entrance off of University Road. The shuttles will allow a high volume of travelers, who would otherwise drive, hire a cab, or rent a car, to reach key Goleta destinations.

During weekday peak hours, the shuttle headways will be every fifteen minutes; during non-peak hours and on weekends shuttles will run every 30 minutes. Service spans on weekdays will be 7AM to 7PM, and on weekends from 10AM to 6PM.

Project Capital: Four 30' emission-free electric buses.

Estimated Annual vehicle trips removed from road: 160,000

Old Town/Airport/UCSB Shuttle



Example/draft

Expanded Trunk/Express Service

The existing Line 6 State/Hollister Local will be re-routed from its current Fairview Center end destination to continue west from Downtown Goleta to the Camino Real Market Place, Ellwood and Winchester Canyon.

The existing Line 12 Goleta Express and the Line 24 UCSB Express will be upgraded to provide constant 30-minute headways all day. The Downtown Santa Barbara end of the line will be extended to Anacapa Street returning via Ortega and Santa Barbara Street. This will enable riders destined for Goleta to board on lower State Street without having to transfer, helping to satisfy the current demand for more service and improved connectivity with other lines. Later service will be added in the evenings and on weekends to serve the travel needs for workers on late shifts and those using the bus for recreational or entertainment events. This is of particular importance with respect to the youth playing fields and movie theaters developed as part of the Camino Real Marketplace.

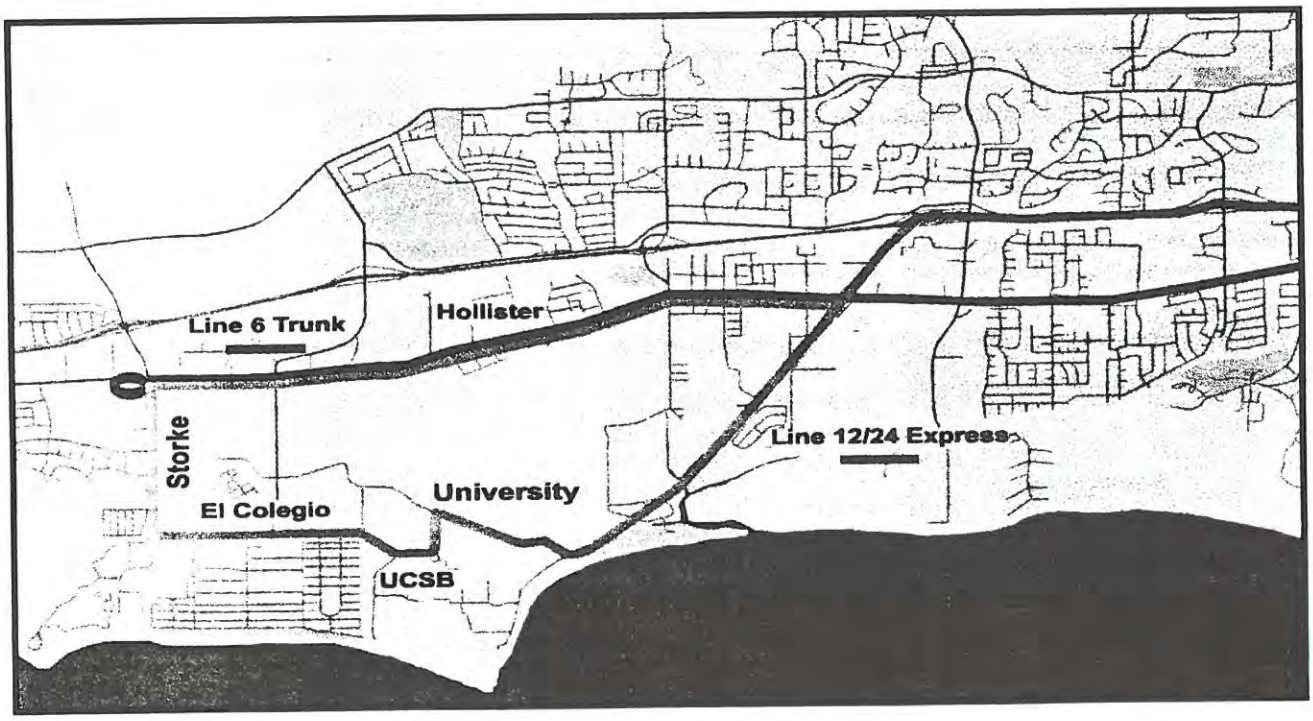
If the MTD Priority #1 FTIP *Electric Avenue Project* is adopted by SBCAG no additional buses will be required for this expanded trunk/express service. Three (3) clean burning 40' diesel buses currently assigned to MTD's lines 1 and 2 will be replaced by mid-size electric's under Priority #1. The three clean burning diesels can therefore be reassigned for expanded trunk/express service.

The expanded trunk service will operate on weekdays from 5:30 AM until 11:50 PM, on Saturdays from 6 AM to 10:45 PM and Sundays from 6:25 AM to 9:40 PM. Express buses will serve these important activity centers from 6 AM to 8:35 PM on weekdays and 9 AM to 8 PM on weekends. Expansion of the trunk and express service will provide constant 15-minute headway's between Downtown Santa Barbara, the Hollister corridor, Camino Real Marketplace and UCSB.

Project Capital: None required (see above paragraph).

Estimated Annual vehicle trips removed from road: 527,000

Goleta Trunk & Express Service



ATTACHMENT #4

CAMINO REAL

Natural Area and Bio-Swale

Enhancement and Management Plan

November 12, 1997

Prepared for:

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NOV 17 1997
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Table of Contents

		Page
I.	Introduction	1
II.	The Natural Area	1
III.	The Bio-Swale	4
IV.	Summary	10
Appendix	A	11
Appendix	B	12

I. INTRODUCTION

The Natural Area and Bio-Swale Enhancement and Management Plan prescribes enhancement and maintenance standards for the existing Natural Area consisting of a scrub willow stand near the southern site boundary, and a Bio-Swale to be created north of the Natural Area.

One purpose of this plan is to provide enhancement and management guidelines to mitigate the existing degraded conditions of the Natural Area and avoid future degradation from proposed surrounding uses. The Management and Enhancement Plan will also improve the Natural Area's value as wildlife habitat, its aesthetic character, and its function as a component of the community park and on-site drainage systems.

A second purpose of the plan is to specify development and maintenance standards for the Bio-Swale to ensure its proper function as a water quality filter and natural wetland area with habitat value and aesthetic character.

II. THE NATURAL AREA

A. Existing Conditions

The existing Natural Area on the site will be enhanced and become part of the Community Park. The Natural Area contains a stand of southern willow scrub and coastal freshwater marsh located in a depression near the southern site boundary adjacent to Phelps Road. The stand was originally associated with a tributary stream to Devereux Slough. (*Woodward Clyde Consultants; 1996 Wetland Delineation*). The existing tree canopy of Arroyo Willow (*Salix lasiolepis*) is almost devoid of understory.

A small stand of Mulefat (*Baccharis salicifolia*) occurs directly south of the main canopy. (*Woodward Clyde Consultants; 1996 Wetland Delineation*) Seasonal freshwater marsh plants occur in low-lying areas north and south of the willow grove, within 20 feet of the edge of the canopy.

The ground plane beneath the willow canopy has been severely degraded by years of human activity. Several areas of accumulated trash are currently located within the stand. Although degraded, the existing willow stand provides cover, forage, and potential nesting sites for certain resident and migratory birds. (*Woodward Clyde Consultants; 1996 Wetland Delineation*)

B. Enhancement and Management Standards

Basic enhancement and management standards are prescribed to improve existing conditions, maintain and improve aesthetic character, and encourage a diverse understory within the willow stand.

1. Enhancement of the Natural Area will include the following:

- Prune all existing willows to remove dead wood, improve tree health, and increase light for understory plants. Said pruning shall be conducted under the direction of a certified arborist, as part of the park development and construction. *Pruning shall not be done during nesting season for riparian birds (April 1 - July 1).*

- Remove all trash and debris from within the Natural Area.

- Control/eradicate invading exotic species (refer to Appendix A) within the willow woodland by hand pulling or treatment with a non-persistent systemic herbicide containing glyphosphate, as directed by a licensed pesticide advisor.

- Revegetate the understory with appropriate riparian and wetland plantings from the list found in Appendix B.

- Develop a buffer planting of associated plants (indigenous or related hybrids) adjacent to the willow stand perimeter.

- Landscaping within one hundred feet of the Natural Area shall consist exclusively of locally-occurring natives, with the exception of turf grass and accent trees.

- All native plants used shall be from nurseries specializing in locally occurring native plants.

- Construct a 'boardwalk' type trail traversing the existing willow stand, elevated 12" above high flood level on vertical supports to maintain drainage flow and prevent disturbance to vegetation.

- Identify and remove hazards to pedestrians (such as broken limbs, poison oak) adjacent to trail areas.

- Control human access into Natural Area by plantings, path location, a rail fence and signage.

- Develop interpretive signage for the path through the willow stand emphasizing the types of plants and animals found within the Natural Area.

- Minimize pest infestation. Assess existing conditions at time of development and determine appropriate protocol for treatment.

- Protect the Natural Area during construction by constructing a fence around the perimeter of the willow woodland. Fence shall remain in place for the duration of construction occurring in the vicinity of the Natural Area.

2. Long term maintenance and management is essential to maintain the habitat value and aesthetic character of the Natural Area. Management of the Natural Area shall include the following:

- Control the density of the willow canopy to maintain vigor and a healthy and diverse understory.

- Maintain the interpretive signage program about the Natural Area,

- Implement a three year maintenance and monitoring program. During the three year maintenance period, the site will be monitored regularly to replace plants which fail to thrive, to manually water individual plants (if needed) and to remove weeds.

- Plants shall be replaced sufficiently to provide a minimum of 80% plant survival for all new plantings over the three year maintenance period.

- Limit human activity within the Natural Area other than on designated paths; maintain the fence to control access to and within the Natural Area.

- Trim willows adjacent to the trail and maintain trails in a safe condition.

- Continue to control poison oak and exotic invasive plants by hand pulling or treatment with a non-persistent systemic herbicide containing glyphosphate, as directed by a licensed pesticide advisor.

- Maintain adjacent buffer plantings.

III. THE BIO-SWALE

A. Purpose and Function

In order to provide a natural mechanism for filtering the runoff water from the Marketplace parking lot and surrounding land uses, a "Bio-Swale" has been incorporated into the project. The Bio-Swale is located adjacent to the parking lot for the skating facilities in an area currently comprised primarily of non-native grassland and a small amount of coastal freshwater marsh. It is comprised of a two staged filtration/retention system. First stage water filtration is performed by coarse gravel and sand in a small sub-basin. Water leaves this system through perforated pipe and is delivered to a second stage larger basin which contains selected riparian plants capable of absorbing and filtering contaminants contained within parking lot runoff. Water from the Bio-Swale flows to the natural area retention basin within the park through a connecting pipe.

The Camino Real Bio-Swale has three major functions:

* Water Quality Treatment
* Flood Water Detention
* On-Site Replacement of Riparian Habitat

1. Water Quality Treatment

Urban runoff carries eroded sediments, nutrients, metals, petroleum, and other pollutants associated with urban land uses. The Bio-Swale will improve the quality of surface runoff by physically filtering the water and facilitating chemical and biological processes that remove pollutants. The goal of the Bio-Swale is to reduce the total number of suspended solids (TSS), nitrogen (N), and biological oxygen demand (BOD) in surface runoff flowing through the Camino Real Marketplace and other surrounding land uses before the flows enter the Devereux Slough. The major functions of the Bio-Swale which remove storm water pollutants are sedimentation, filtration, absorption, and vegetative uptake. Sedimentation is the most important process by which particulate pollutants, such as nutrients, metals, and toxins associated with particulate matter, are removed from storm water.

2. Flood Water Detention

The Bio-Swale provides storage volume, resulting in hydraulic detention, which decreases the rate of runoff. As the flow rate decreases, the velocity of the water is also reduced. Decreases in volume, although small, may result from evapotranspiration. Limited infiltration may also occur. The ability of the Bio-

Swale to provide detention storage, and to a lesser extent volume retention, enhances its ability to control pollutants. In particular, decreased flow rates and velocities promote sedimentation. The erosive force of water is also reduced so that possible downstream effects are mitigated. In addition, the decreased flow rates tend to both reduce and elongate the pollutant loading to the downstream resources.

3. On-site Replacement of Riparian Habitat

Another purpose of the Bio-Swale is to replace the wetland habitat lost during project development. Since the Bio-Swale is meant for storm water treatment, the selection of plants (plant palette) in the wetland is in favor of those in-kind and on-site plants with water treatment capability. In this matter, the selected plants can uptake nutrients, heavy metals and organics from soil the through roots and rhizomes to enhance water quality, and also meet the goal of on-site habitat replacement.

B. Components

The functions of the Bio-Swale described above occur in two basins: the forbay (sedimentation basin) and the backbay (bio-swale basin). These basins are accompanied by six other hydraulic engineering components. Each component has a specific function to ensure the performance of the intended functions of the Bio-Swale. Figure 1 illustrates the locations of the eight major design components of the Bio-Swale.

1. Storm Drain Spliter

A junction structure which diverts daily low flows of urban runoff in the main storm drain to the forbay and allows for a bypass of the Bio-Swale to the downstream Natural Area detention basin.

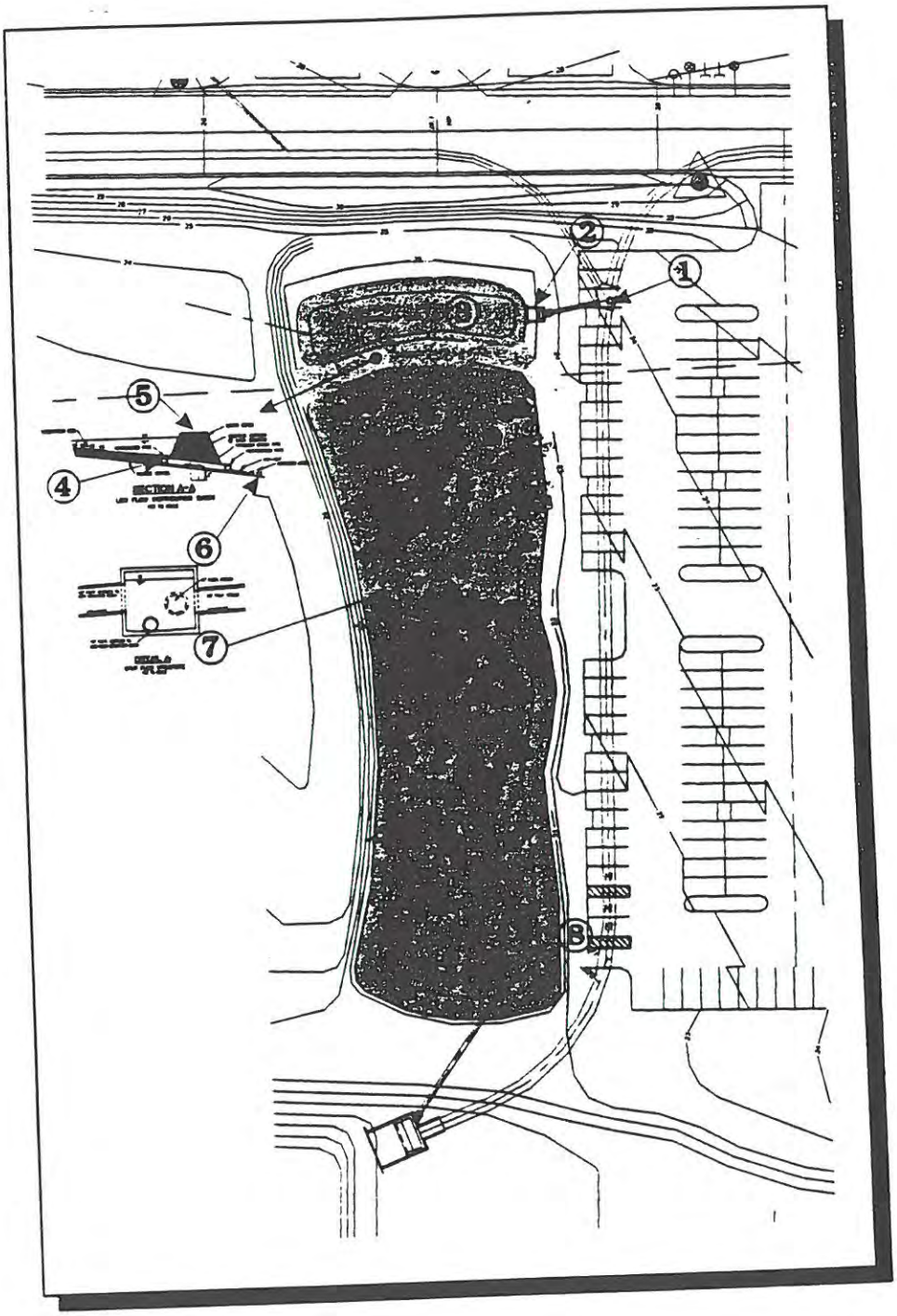
2. Inlet to the Forbay (Sedimentation Basin)

A riprap energy dissipator which dissipates the incoming flow of energy and prevents erosion in the vicinity of the pipe outlet.

3. Forbay (Sedimentation Basin)

A sedimentation basin which reduces the flow velocity and impounds the runoff water to allow particulate matter to settle. The forebay is comprised of course sand and gravel on the bottom with banks that are vegetated.

Figure 1: *Plan-View of Proposed Bio-Swale*



4. Outlet to Backbay

A trench drain which regulates the outlet discharge and slows down the flow velocity from the forbay to the backbay.

5. Overflow Weir

A board crest weir which serves as a secondary overflow path to allow the spill over of storm water from the forbay to the backbay when impounded water exceeds the capacity of the Forbay.

6. Water Distribution System

A system of perforated pipes underneath the overflow weir which evenly distribute low flows from the forbay to the backbay to nourish the riparian plants.

7. Backbay (Bio-Swale Basin)

A system of shallow, unconsolidated swales with meandering paths which further slows the runoff velocity, carries runoff through riparian habitat, and promotes sedimentation, filtration, absorption, and vegetative uptake for water quality treatment.

8. Outlet to Detention Basin (Natural Area)

An outlet structure which conveys the clear water from the Bio-Swale to the down-stream detention basin and allows high water from the detention basin to back up into the Bio-Swale for additional water storage volume.

The perimeter of the Bio-Swale will be landscaped with accent trees and shrubs. A rail fence will be constructed at the top of the bank to discourage access into the area. A bridge will be constructed over the Bio-Swale to link the parking lot to the park. Additionally, informational signs will be installed to describe the purpose and features of the Bio-Swale.

C. Creation and Management

Basic standards are prescribed to create and maintain wetland value, adequate drainage, aesthetic character, and an educational opportunity. Creation of the Bio-Swale will include the following:

- Eradicate all existing vegetation prior to earthwork. Prior to landscape installation, the Bio-Swale shall be cleared of all exotic plant materials. While it is assumed that grading of the Bio-Swale will remove all weeds, any which remain shall be removed by selective hand-pulling. Persistent exotics, such as Kikuyu or Bermuda, shall be treated with "Round Up", "Rodeo" or other herbicide approved by the State of California Department of Fish and Game. Herbicides shall be applied only by a licensed applicator.

- Excavate the Bio-Swale pursuant to the approved Grading Plans.

- Install necessary engineering components.

- Prepare riparian planting basins, seed beds and other planting areas.

- Install water supply or irrigation system and test.

- Install appropriate canopy, edge and bottom plantings to reflect a combined riparian and seasonal wetland setting as part of the project construction. Vegetate with plants identified in Appendix B. All plants shall be locally-occurring native species, purchased from nurseries specializing in locally-occurring native plants.

- Construct a bridge across the Bio-Swale to accommodate pedestrian traffic from parking to the ballfield.

- Construct a rail fence at the top of bank surrounding the Bio-Swale to discourage access into the area.

- Provide information signage to explain the function of the Bio-Swale and the riparian landscaping.

- Manage the boundary and edge of the Bio-Swale by controlling human access to the area with a rail fence and barrier plantings.

Long-term maintenance and management is essential to maintain the habitat value and drainage functions of the Bio-Swale. Although maintenance is required, it should be viewed as a relatively short-term measure, generally limited to the first three years after cessation of planting, after which time the Bio-Swale should be relatively self-sufficient. Management of the Bio-Swale will include the following:

- Perform routine plant maintenance to prevent hazards to public safety and to maintain the habitat values and drainage system.

- Control invasive plants by selective hand pulling. Persistent exotics, such as Kikuyu or Bermuda, shall be treated with "Round Up", "Rodeo" or other herbicide approved by the State of California Department of Fish and Game. Herbicides shall be applied only by a licensed applicator.

- After the end of each rainy season, replace plants which have been damaged or uprooted.

- Periodically thin and selectively remove natural growth to ensure healthy plant growth and maintain adequate flood flows around and through the system.

- An automatic irrigation system shall be installed to promote establishment of the installed plants. After the first year of growth, the irrigation system will be utilized only to ensure plant survival during extended periods of drought.

- Implement a three year maintenance and monitoring program. During the maintenance period, the site will be monitored regularly to replace plants which fail to thrive, to remove weeds, and to maintain the efficiency of the drainage and detention system.

- Plants shall be replaced sufficient to provide a minimum of 80% plant survival required for all new plantings.

- In order to maintain the efficiency of the drainage and detention system, fossil-filters (grease entrapment device) at all catch basin inlets shall be replaced semi-annually.

- Any embankment erosion or undercutting at structural outlets and the separation weir shall be repaired as necessary.

- Remove all dead brush, debris and trash that may impede outlet flows.

- Replace or repair rock, concrete, pipe and other storm drain structures as they exceed their expected working life, or as wear and tear dictate.

- Discourage human access into the Bio-Swale with adjacent educational signage, and maintenance of the rail fence and bridge.

- During the rainy season, remove all storm-borne debris.

IV. SUMMARY

Implementation of this Plan requires the coordination of the management entities and maintenance personnel, and the cooperation of the general public. This Management and Enhancement Plan shall be periodically reviewed and updated where necessary to incorporate additional measures found necessary to ensure that the purposes and objectives of the Natural Area and Bio-Swale are achieved.

APPENDIX A

Invasive Exotic Plant List

The following plants must be eradicated from the Natural Area:

Common Name	*Botanic Name*
Giant Reed	*Arundo donax*
Bottlebrush	*Callistemon sp.*
Pampas Grass	*Cortaderia atacamensis*
Bermuda Grass	*Cynodon dactylon*
Sweet Fennel	*Foeniculum vulgare*
Engilsh Ivy	*Hedera helix*
Myoporum	*Myoporum laetum*
Kikuyu Grass	*Pennisetum clandestinum*
Castor Bean	*Ricinus communis*
German Ivy	*Senecio mikanoides*
Brazilian Pepper	*Schinus terebinthifolius*
Nasturtium	*Tropaeolum majus*
Periwinkle	*Vinca major*

APPENDIX B

Recommended Riparian and Wetland Plant List

Common Name	*Botanic Name*
Trees & Large Shrubs	
White Alder	*Alnus rhombifolia*
Pacific Wax Myrtle	*Myrica californica*
Californica Sycamore	*Platanus racemosa*
Fremont Cottonwood	*Populus fremontii*
Quercus agrifolia	*Coast Live Oak*
Edge & Bank Plants	
Mugwort	*Artemisia douglasiana*
Creek Clematis	*Clematis ligustifolia*
Giant Wild-Rye	*Elymus condensatus*
Creeping Wild-Rye	*Elymus triticoides*
Sneezeweed	*Helenium puberulum*
Alum-Root	*Heuchera micrantha var. pacifica*
Twinberry	*Lonicera involucrata*
Monkey Flower	*Mimulus guttatus*
Pink Currant	*Ribes sanguineum var. glutinosum*
Fuchsia-Flowering Gooseberry	*Ribes speciosum*
California Wild Rose	*Rosa californica*
Blackberry	*Rubus ursinus*
Goldenrod	*Solidago californica*
Snowberry	*Symphoricarpus mollis*
Meadow Rue	*Thalictrum polycarpum*
Bottom Plants	
Sedge	*Carex praegracilis*
Sedge	*Cyperus eragrostis*
Horsetail	*Equisetum arvense*
Toadrush	*Juncus bufonis*
Rush	*Juncus patens*
Rush	*Juncus phaeocephalus*
California Bulrush	*Scirpus californicus*
Cattail	*Typha domingensis*

ATTACHMENT #5

DAN

AB 1600 FEE JUSTIFICATION STUDY FOR PARK FACILITIES GOLETA PLANNING AREA COUNTY OF SANTA BARBARA

March 5, 1999

Prepared For

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TABLE OF CONTENTS

Section		*Page*
A.	OBJECTIVES OF STUDY	1
B.	METHODOLOGY	1
C.	FACILITIES STANDARDS	2
D.	APPORTIONMENT OF FACILITIES COSTS	3
E.	CALCULATION OF FEES	4

APPENDIX I AB 1600 NEXUS TEST

AB 1600 FEE JUSTIFICATION STUDY

A. *OBJECTIVES OF STUDY*

Assembly Bill ("AB") 1600, which created Section 66000 et. seq. of the Government Code, was enacted by the State of California in 1987. AB 1600 requires that all public agencies satisfy the following requirements when establishing, increasing or imposing a fee as a condition of approval for a development project:

1. Identify the purpose of the Fee.

2. Identify the use to which the Fee will be put.

3. Determine that there is a reasonable relationship between the Fee's use and the type of development on which the Fee is to be imposed.

4. Determine how there is a reasonable relationship between the need for the public facility and the type of development project on which the Fee is to be imposed.

Recognizing the need to levy Fees to mitigate impacts from new development, the County of Santa Barbara contracted with David Taussig and Associates, Inc. ("DTA") to prepare a Fee Justification Study for Park Facilities (the "Fee Study") that will satisfy the requirements of AB 1600 and will specifically establish a rational and substantial nexus between new multi-family attached residential and commercial/industrial development in the Goleta Planning Area ("GPA") and the need for park facilities. Based on the current County Facility Standard, DTA has determined Fee amounts which will generate sufficient revenues to build the park facilities necessary to mitigate the impacts of new multi-family attached residential and commercial/industrial development on these facilities.

Under Section 66000 et. seq. of the Government Code, local governments only have the right to collect development Fees from new development, not from existing development. Therefore, in analyzing the costs of future public facilities for the GPA, the Fee Study's emphasis is on those facilities necessary to accommodate growth. The cost of facilities to serve existing development, where appropriate, was also determined. However, the County will need to seek other funding sources to finance these costs.

B. *METHODOLOGY*

Pursuant to the nexus requirement of AB 1600, a local agency is required to "determine how there is a reasonable relationship between the amount of the fee and the cost of the public facility or portion of the public facility attributable to the development on which the fee is imposed." It is impossible to accurately determine the impact a specific new multi-family attached residential or commercial/industrial project will have on existing facilities. Predicting future residents' and

employees' specific behavioral patterns, recreation habits, and health and welfare requirements is extremely difficult, and involves numerous assumptions that are subject to substantial variances. Recognizing these limitations, the Legislature drafted AB 1600 to specifically require that a "reasonable" relationship be determined, not a direct cause and effect relationship.

Fees for park facilities have been calculated utilizing the methodology discussed below. The methodology employs the concept of an Equivalent Dwelling Unit ("EDU") to allocate benefit among the residential and non-residential land use classes. EDUs are a means of quantifying different land uses in terms of their equivalence to a single family detached dwelling unit, where equivalence is measured in terms of potential infrastructure use or benefit for each type of public facility.

Step 1 Identify the proposed Facility Standard (park acreage per EDU) for new and existing development.

Step 2 Determine the acquisition and improvement cost per acre and apply this cost to the proposed Facility Standard per EDU, as calculated in Step 1 above. This calculation will result in a total cost per EDU.

Step 3 Calculate the Fee per land use class of new development by multiplying the cost per EDU by the number of EDUs per unit or 1,000 square feet of new development for each land use class.

Step 4 Apply the proposed Facility Standard per EDU from Step 1 to existing developed land uses to determine the facilities required to serve existing development. Subtract the current amount of facilities in these areas to determine the existing deficit.

Step 5 Apply the cost per acre from Step 2 to the facility deficit from Step 4 to calculate the amount required to cure the existing deficit.

Step 6 To assist in facility planning, estimate the amount of Fee revenues anticipated in future years, based on residential and commercial growth projections multiplied by Fees calculated pursuant to Step 3.

Appendix I provides a detailed analysis of the AB 1600 nexus test and park Fee calculation.

C. FACILITIES STANDARDS

Using the County's park standard of 4.7 acres per 1,000 persons and the number of residents per household from the 1990 census (2.72), DTA computed the acres of parks required per EDU. This Facility Standard per EDU is then multiplied by 1,000 to calculate a proposed Facility Standard of 12.78 park acres required for 1,000 EDUs. This Facility Standard, as seen below in Table 1, is applied to active and passive acres in the ratios of 80% and 20%, respectively.

TABLE 1
FACILITY STANDARDS PER 1,000 EDUS

Infrastructure Improvement	Facility Standard per 1,000 EDUs
Parks	
Active acres	10.22
Passive acres	2.56
Total Acres	12.78

This Facility Standard is then applied to new and/or existing multi-family attached residential and commercial/industrial development using the methodology described in Section B of the Fee Study.

D. APPORTIONMENT OF FACILITIES COSTS

AB 1600 requires that a reasonable relationship exist between the need for public facilities and the type of development on which a Fee is imposed. The need for park facilities is related to the level of service demanded, which varies in proportion to the EDUs generated by a particular land use type. In this analysis, three land use categories were established for new development in the GPA:

Residential:
Multi-Family Attached

Commercial/Industrial:
Retail Commercial
Non-Retail Commercial/Industrial

The calculation of Fees for this Fee Study required a determination of the appropriate measure of benefit for park facilities. It was determined that the available hours of park usage best determined the level of service demanded by EDUs in the GPA.

TABLE 2
CALCULATION OF PARK EDUS

Land Use	Number of Residents /Employees per Unit/1,000 SF	Available Hours of Park Usage per week, per Unit/1,000SF	EDUs Per Unit/1,000 SF
Single Family Detached	3.20	140.80	1.00
Multi-Family Attached	2.37	104.28	0.74
Retail Commercial	2.24	44.76	0.32
Non-Retail Commercial/Industrial	3.16	63.12	0.45

E. CALCULATION OF FEES

Once the steps outlined in Sections B through D of this Fee Study have been completed, the Fees assigned to the multi-family attached residential and the two non-residential land use classes for park facilities may be calculated. As shown in Table 1 of Appendix I, the park Fee per multi-family attached unit is $5,179.39, and the park Fees per 1,000 square feet of retail and non-retail commercial/industrial development are $2,223.01 and $3,135.06, respectively.

The park Fees calculated in this study are reflected in 1998 dollars. The Fees may be adjusted in future years to reflect revised Facility Standards, receipt of funding from alternative sources (i.e., state or federal grants), revised development costs, or changes in demographics. In addition to such periodic adjustments, the Fees may be inflated each year by a predetermined rate set forth in the adopted fee ordinance.

If a developer dedicates land or constructs facilities for which Fees are being levied, the County may provide an appropriate Fee credit based on the estimated value of such dedication or construction. Fee credits will be calculated on a case-by-case basis for each proposed development.

The total cost of new park facilities required in the GPA to meet the needs of current and future multi-family attached residential and non-residential development is $63.3 million. Of this amount, $13.5 million is anticipated to be collected in Fees from new development, while $49.7 million reflects an existing deficiency which must be funded from other sources to be determined by the County.

Table 3 below compares the total estimated park facilities costs for the GPA with projected revenue sources, including Fee revenues, and charges to existing development.

TABLE 3
SOURCES AND USES OF FUNDS (NON-RESIDENTIAL DEVELOPMENT)

		Potential Sources of Funds	
Infrastructure Improvement	**Estimated Facilities Cost**	**Fee Revenues (future development)**	**Other Revenue Sources (Existing Deficiency)**
Parks	**$63,258,250**	**$13,532,896**	**$49,725,354**

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APPENDIX I

Goleta Planning Area
Parks

AB 1600 Nexus Test	
Identify Purpose of Fee	Parks
Identify Use of Fee	• Acquisition and construction of active and passive park facilities
Demonstrate how there is a reasonable relationship between the need for the public facility, the use of the Fee, and the type of development project on which the Fee is imposed.	New multi-family attached residential and commercial/industrial development will generate additional residents and employees who will increase the demand for park facilities. Land will have to be acquired and improved to meet this increased demand. Fees collected from new multi-family attached and non-residential development will be used exclusively for this purpose.

The County's current service level for parks was determined by taking an inventory of the existing facilities within the Goleta Planning Area ("GPA"). There are currently a total of 166.36 acres of parks in the GPA. This includes 128.21 acres of active parks, and 38.15 acres of passive private parks. As park facilities are used by both residents and employees, the EDU calculation is based on available hours of park usage. The current number of EDUs in the GPA is 26,403. Based on the number of existing EDUs, the current service level is 4.86 acres of active parks and 1.44 acres of passive parks per 1,000 EDUs.

The proposed Facility Standard, which was calculated based on the County's existing facility requirement of 4.7 acres of public parklands per 1,000 persons, as discussed in Section C, is 10.22 acres of active parks and 2.56 acres of passive parks per 1,000 EDUs for both new and existing development.

Based on the proposed Facility Standard, a cost of $6,993.22 per EDU has been established for park facilities. Table 1 shows the number of EDUs (existing and future), current service level, proposed Facility Standard, cost per EDU, and the Fee for a multi-family attached unit and each non-residential land use category. Table 2 shows the level of service demanded by EDUs in the GPA according to the available hours of park usage, and Table 3 displays the Quimby Fee Formula.

Future park Fee revenues can be estimated based on projections of future multi-family attached residential and non-residential EDUs. The table below, provides an estimate of Fee revenues through buildout of the GPA. All future Fee revenues are reflected in 1998 dollars. The park Fee revenues, in accordance with AB 1600, will be used exclusively for the purchase, construction, and/or expansion of capital facilities in order to achieve and/or maintain the proposed Facility Standard as new development occurs.

Park Fee
Estimated Buildout Fee Revenues

Future Multi-Family Attached Residential and Non-Residential EDUs	Cost per EDU: Park	Estimated Fee Revenues: Park
1,935	$6,993.22	$13,532,896

Facilities Fees cannot be charged to existing development. Thus, the cost of land and facilities necessary to bring existing multi-family attached residential and commercial/ industrial development up to the proposed Facility Standard is not included in the park Fee. A total of $49,725,354 will be required from existing multi-family attached residential and non-residential development to develop additional park facilities to achieve the proposed standard.

Table 1
Goleta Planning Area
Park and Recreation Facility Standard and Fee Schedule

I. Existing EDU Calculation

Service Factor (Hours of Park Usage) [1]

Land Use Type	Residents/ Employees per Unit/SF	Number of Units/SF	Available Weekly Hours of Park Usage Per Unit/1,000 SF	EDUs per Unit/1,000 SF	Number of EDUs
Single Family Detached	3.20	12,443	140.80	1.00	12,443
Multi-Family Attached	2.37	12,404	104.28	0.74	9,187
Retail Commercial	0.0022	3,499,889	44.76	0.32	1,113
Non-Retail Commercial/Industrial	0.0032	8,166,409	63.12	0.45	3,661
Total					26,403

[1] See Park EDU analysis.

II. Current Service Level

Facility Type	Facility Unit	Facility Units Per 1,000 EDUs
Land	Acre	6.30
Improvements (active)	Acre	4.86
Improvements (passive)	Acre	1.44

III. Future EDU Calculation

Service Factor (Hours of Park Usage) [1]

Land Use Type	Residents/ Employees per Unit/SF	Number of Units/SF	Available Weekly Hours of Park Usage Per Unit/1,000 SF	EDUs per Unit/1,000 SF	Number of EDUs
Single Family Detached	3.20	1,106	140.80	1.00	1,106
Multi-Family Attached	2.37	1,185	104.28	0.74	878
Retail Commercial	0.0022	890,069	44.76	0.32	283
Non-Retail Commercial/Industrial	0.0032	1,727,780	63.12	0.45	775
Total					3,041

[1] See Park EDU analysis.

IV. Proposed Facility Standard and Cost Per EDU

Total EDUs (Excluding Single Family Residential) 15,895

Facility Type	Facility Unit	Cost Per Facility Unit	Facility Units Per 1,000 EDUs	Cost Per EDU
Total Land (active)	Acre	$400,000	10.22	$4,089.60
Total Land (passive)	Acre	$400,000	2.56	$1,022.40
Improvements (active)	Acre	$165,000	10.22	$1,686.96
Improvements (passive)	Acre	$76,000	2.56	$194.26
Total Cost Per EDU				$6,993.22

Proposed Facility Standard for 1,000 EDUs 12.78

V. Inventory of Proposed Facilities (Excluding Single Family Residential)

Existing EDUs 13,960
Future EDUs 1,935

Facility	Total Acres	Facility Cost
Land (existing)		
Land (future)		
Active Pubic Parks		
Active Public Parks (existing deficit)	74.94	$42,341,922
Active Public Parks (future residents)	19.78	$11,178,488
Passive Public Parks		
Passive Public Parks (existing deficit)	15.51	$7,383,431
Passive Public Parks (future residents)	4.95	$2,354,407
Total (existing deficit)	90.45	$49,725,354
Total (future residents)	24.73	$13,532,896

VI. Developer Fees per Unit/1,000 SF

Land Use Type	EDUs per Unit/1,000 SF	Fee per Unit/ 1,000 SF
Multi-Family Attached	0.74	$5,179.39
Retail Commercial	0.32	$2,223.01
Non-Retail Commercial/Industrial	0.45	$3,135.06

Table 2
Goleta Planning Area
Park EDU Analysis

Number of Hours Available for Park Usage	Resident	Employee
Weekday [1]	4	4
Weekend	12	0
Total Hours Available each Week	44	20
		45.45%

[1] Assumes all residents work and/or are at school during the hours of 9 - 5.

Land Use Type	Number of Residents/Employees Per Unit/1,000 SF	Available Hours of Park Usage Per Unit/1,000 SF	EDUs Per Unit/1,000 SF
Single Family Detached	3.20	140.80	1.00
Multi-Family Attached	2.37	104.28	0.74
Retail Commercial	2.24	44.76	0.32
Non-Retail Commercial	3.16	63.12	0.45

Table 3
Goleta Planning Area
Quimby Fee Formula

I. Park Acres required per 1,000 persons	4.70
II. Estimated number of dwelling units for 1,000 persons 1,000 / 2.72 (estimated persons per SFD)	368
III. Park Acreage required per SFD 4.70 / 368	0.0128
IV. Fee Per SFD 0.0128 x $547,188	$7,004

STATE OF CALIFORNIA

Governor's Office of Planning and Research

1400 TENTH STREET SACRAMENTO, CALIFORNIA 95812-3044

Gray Davis
GOVERNOR

March 30, 1999

APR 2 1999
CITY OF SANTA BARBARA
PLANNING DIVISION

Bill Jacobs
CITY OF SANTA BARBARA
630 Garden Street
PO Box 1990
Santa Barbara, CA 93102-1990

Subject: SANTA BARBARA MUNICIPAL AIRPORT MASTER PLAN UPDATE, Supplemental EIR
ENV97-0573
SCH#: 93081127

Dear Bill Jacobs:

The State Clearinghouse submitted the above named environmental document to selected state agencies for review. The review period is closed and none of the state agencies have comments. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. 6-1

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the eight-digit State Clearinghouse number when contacting this office.

Sincerely,

Terry Roberts

Terry Roberts
Senior Planner, State Clearinghouse

Mail to: State Clearinghouse 1400 Tenth St., Sacramento, CA 95814 916/445-0613 [93081127-1]

Project Title: ENV97-0573

Lead Agency: City of Santa Barbara

Contact person: Bill Jacobs, Associate Planner

Street Address: 630 Garden Street, P.O. Box 1990 Phone: (805)564-5470

City: Santa Barbara, CA 93102-1990 County: Santa Barbara

Project Location
County: Santa Barbara City/Nearest Community: City of Santa Barbara

Cross Streets: Hollister Ave. between David Love Place and Fredrick Lopez Road Total Acres: Approx. 15

Assessor's Parcel No. 73-080-36 Section: _____ Twp. _____ Range: _____ Base: _____

Within 2 Miles: State Hwy#: U.S. 101 Waterways: Yes

Airports: Yes Railways: Yes Schools: Yes

Document Type
CEQA: [ ] NOP [x] Supplement/Subsequent EIR NEPA: [ ] NOI Other: [ ] Joint Document
[ ] Early Cons [ ] EIR (Prior SCH No.) [ ] EA [ ] Final Document
[ ] Neg Dec [ ] Other [ ] Draft EIS [ ] Other
[ ] Draft EIR [ ] FONSI

FILED FEB 8 1999 STATE CLEARINGHOUSE

Local Action Type
[ ] General Plan Update [ ] Special Plan [ ] Rezone [ ] Annexation
[ ] General Plan Amendment [ ] Master Plan [ ] Prezone [ ] Redevelopment
[ ] General Plan Element [ ] Planned Unit Development [ ] Use Permit [ ] Coastal Permit
[ ] Community Plan [X] Site Plan [ ] Land Division (Subdivision, Parcel Map, Tract Map, etc.) [ ] Other

Development Type
[ ] Residential: Units _____ Acres _____ [ ] Water Facilities: Type _____ MGD
[x] Office: Sq. ft. 80,000 Acres _____ Employees 263 [ ] Transportation: Type _____
[x] Commercial: Sq. ft. 20,000 Acres _____ Employees 36 [ ] Mining: Mineral _____
[x] Industrial: Sq. ft. 80,000 Acres _____ Employees 198 [ ] Power: Type _____
Watts _____
[ ] Educational _____ [ ] Waste Treatment: Type _____
[ ] Recreational _____ [ ] Hazardous Waste: Type _____
[ ] Other: _____

Project Issues Discussed in Document

[x] Aesthetic/Visual	[x] Flood Plain/Flooding	[x] Schools/Universitiesr	[x] Water Quality
[ ] Agricultural Land	[ ] Forest Land/Fire Hazard	[ ] Septic Systems	[x] Water Sup/GWtr
[x] Air Quality	[x] Geologic/Seismic	[x] Sewer Capacity	[ ] Wetland/Riparian
[x] Archeological/Hist.	[ ] Minerals	[x] Soil Erosion/Grading	[ ] Wildlife
[ ] Coastal Zone	[x] Noise	[x] Solid Waste	[ ] Growth Inducing
[x] Drainage/Absorption	[x] Pop./Housing Balance	[ ] Toxic/Hazardous	[x] Land Use
[x] Economic/Jobs	[x] Public Services/Facil.	[x] Traffic/Circulation	[x] Cum. Effects
[ ] Fiscal	[x] Recreation/Parks	[ ] Vegetation	[ ] Other _____

Present Land Use/Zoning/General Plan Use:
Land Use Mixed Commercial/Industrial
Zoning Airport Industrial I and II
G.P. Desg. Industrial

Project Description: The project site is located at 6100 Hollister Avenue, a .15-acre parcel located south of Francis Botello Road, between David Love Place and Frederic Lopez Road (Exhibit 2, Vicinity Map). The proposed project is a 180,000 sq. ft. mixed-use industrial and commercial development, including 160,000 sq. ft. of office and R&D space, and 20,000 sq. ft. of retail space. The office and R&D space is proposed to be occupied by Miravant Medical Technologies, and is located in four interconnected one and two-story buildings in the center of the site, surrounding a central plaza. The 20,000 sq. ft. of retail space is located within two buildings approximately 10,000 sq. ft. each, located on the two southern corners of the property along Hollister Avenue at David Love Place and Frederic Lopez Road. This retail space is anticipated to include approximately 12,500 sq. ft. of specialty retail uses, and approximately 7,500 sq. ft. of high turnover restaurant use. The project site is adjacent to the existing one-acre Love Commons (a.k.a. Robert Park), located at the northwest corner of the site. The project proposes an additional recreation area adjacent to the park, including a basketball and volleyball court. A total of 465 parking spaces are provided in a surface parking area surrounding the main buildings, with space for an additional 55 spaces if needed in the future.

State Clearinghouse Contact: DeLicia Wynn (916) 445-0613

State Review Began: 2-8-99

Dept. Review to Agency 3-18-99

Agency Rev to SCH 3-23-99

SCH COMPLIANCE 3-25-99

Please note State Clearinghouse Number (SCH#) on all Comments

SCH#: 93081127

Please forward late comments directly to the Lead Agency

AQMD/APCD 30 (Resources: 2/13)

Project Sent to the following State Agencies

X **Resources**
___ Boating
___ Coastal Comm
___ Coastal Consv
___ Colorado Rvr Bd
___ Conservation
X Fish & Game # 5
___ Delta Protection
___ Forestry
___ Historic Preservation
X Parks & Rec
___ Reclamation
___ Bay Cons & Dev Comm
___ DWR
___ OES

Bus Transp Hous
___ Aeronautics
X CHP
X Caltrans # 5
___ Trans Planning
___ Housing & Devel
___ Food & Agriculture
___ Health & Welfare

State/Consumer Svcs
___ General Services

Cal EPA
X ARB
___ CA Waste Mgmt Bd
___ SWRCB: Clean Wtr Prog
___ SWRCB: Delta
___ SWRCB: Wtr Quality
___ SWRCB: Wtr Rights
X Reg. WQCB # 3
___ Toxic Sub Ctrl-CTC

Yth/Adlt Corrections
___ Corrections

Independent Comm
___ Energy Commission
X NAHC
___ Public Utilities Comm
___ Santa Monica Mtns
X State Lands Comm
___ Tahoe Rgl Plan

___ Other: _____

V. ENVIRONMENTAL HEARING:

APPROXIMATE TIME: 3:30 P.M.

APPLICATION OF CITY OF SANTA BARBARA AIRPORT DEPARTMENT (PROPERTY OWNER) AND BERMANT DEVELOPMENT CORPORATION (AGENT); 6100 HOLLISTER AVENUE; APN 73-080-36; A-I-1/A-I-2 AIRPORT INDUSTRIAL 1 AND 2 ZONES; GENERAL PLAN DESIGNATION: INDUSTRIAL (MST 97-0715)

The project site is located at 6100 Hollister Avenue, a 15-acre parcel located south of Francis Botello Road, between David Love Place and Frederic Lopez Road. The proposed project, known as the "Airport Gateway Center," is an 180,000 square feet (sq. ft.), mixed-use industrial and commercial development, including 160,000 sq. ft. of office and R&D space, and 20,000 sq. ft. of retail space. The office and R&D space is proposed to be occupied by Miravant Medical Technologies, and is located in four interconnected one and two-story buildings in the center of the site surrounding a central plaza.

The 20,000 sq. ft. of retail space is located within two buildings, approximately 10,000 sq. ft. each, located on the two southern corners of the property along Hollister Avenue at David Love Place and Frederic Lopez Road. This retail space is anticipated to include approximately 12,500 sq. ft. of specialty retail uses, and approximately 7,500 sq. ft. of high turnover restaurant use. The project site is adjacent to the existing one-acre Love Commons (a.k.a. Robert Park), located at the northwest corner of the site. The project proposes an additional recreation area adjacent to the park including a basketball and volleyball court. A total of 465 parking spaces are provided in a surface parking area surrounding the main buildings with space for an additional 55 spaces if needed in the future. (WDJ)

The purpose of this hearing is to take both public and Planning Commission comments regarding the adequacy of the Draft Supplemental Environmental Impact Report (SEIR) in analyzing the potential impacts, for response and incorporation into the Final SEIR. The Draft SEIR was prepared for the proposed project in response to new methodology developed for evaluating air quality impacts. The Draft SEIR, therefore, also uses this new methodology to re-evaluate air quality impacts from build out of the Airport Specific Plan area in which the proposed project is located.

Associate Planner Bill Jacobs presented the staff report.

Airport Director Karen Ramsdell and Assistant Airport Director Hazel Johns were present.

Supervising Engineer John Ewasiuk responded to the Commission's questions concerning storm drainage.

Project Planner Jan Hubbell added comments on short-term impacts and when they are addressed in the process.

The Commission requested the following additional information to be addressed in the Final Supplemental EIR:

Cut and fill calculations.
The number of truck loads.
The amount of exportation of demolition debris.
The recycling of demolition debris. PC-1
The mitigation measures for the above.
Truck traffic routes and the timing of the truck traffic.
Drainage impacts from San Pedro and Las Vegas Creeks and development of an improvement plan.

The Commission requested that the following issues be addressed in the staff report and reflected in the project design:

The loss of yard use should be discussed further in the socioeconomic impact section. The Commission would like to see a good open yard use.
Information on how funds might be directed for alternative transportation orientation for traffic enhancements and direct connection to nearby neighborhoods by bicycle access.
Plan for a direct connection from the train station platform to the specific planned area. PC-2
Landscaping with the use of native plants.
Permeable surfaces in as many areas as feasible.
Requirement for the Transportation Demand Management Program.
Fee information schedule listing how the various agency fees will be negotiated.

The Commission appreciated the Solid Waste Management Plan, stated that the retention basin is a plus, and noted the proposed revisions to the Goleta Transportation Improvement Plan fees.

The public hearing was opened at 5:55 p.m. and, with no one wishing to speak, the public hearing was closed.

APPENDIX 1

Initial Study ENV97-0573

CITY OF SANTA BARBARA
COMMUNITY DEVELOPMENT DEPARTMENT
PLANNING DIVISION

INITIAL STUDY/ENVIRONMENTAL CHECKLIST ENV97-0573

PROJECT TITLE: AIRPORT GATEWAY CENTER- 6100 HOLLISTER AVE.

This Initial Study has been completed for the proposed project described below because the proposed project is subject to review under the California Environmental Quality Act (CEQA) and was determined not to be exempt from the requirement for the preparation of an environmental document. The information, analysis and conclusions contained in this Initial Study are the basis for deciding whether a Negative Declaration (ND) is to be prepared or if preparation of an Environmental Impact Report (EIR) is required to further analyze impacts. Additionally, if preparation of an EIR is required, the Initial Study is used to focus the EIR on the effects determined to be potentially significant.

A Final Environmental Impact Report/Environmental Assessment (FEIR/EA) has been certified for the Santa Barbara Municipal Airport Industrial/Commercial Specific Plan. The FEIR/EA is a first-tier EIR. Section 15163 of the CEQA Guidelines authorizes the lead agency to prepare a Supplement to a previously certified EIR under certain circumstances.

This Initial Study evaluates how the Airport Gateway Center project falls within the scope of the impacts identified in the Airport Specific Plan FEIR/EA. It identifies project specific impacts, and provides mitigation measures which further implement those identified in the FEIR/EA.

The FEIR/EA is incorporated by reference into this Initial Study, and is available for public review at the City of Santa Barbara Community Development Department, 630 Garden Street, Santa Barbara, CA 93012-1990.

PROJECT DESCRIPTION (See Site Plan, Exhibit 1)

The project site is located at 6100 Hollister Avenue, a 15-acre parcel located south of Francis Botello Road, between David Love Place and Frederic Lopez Road (Exhibit 2, Vicinity Map). The proposed project is a 180,000 sq. ft. mixed-use industrial and commercial development, including 160,000 sq. ft. of office and R&D space, and 20,000 sq. ft. of retail space. The office and R&D space is proposed to be occupied by Miravant Medical Technologies, and is located in four interconnected one and two-story buildings in the center of the site, surrounding a central plaza. The 20,000 sq. ft. of retail space is located within two buildings approximately 10,000 sq. ft. each, located on the two southern corners of the property along Hollister Avenue at David Love Place and Frederic Lopez Road. This retail space is anticipated to include approximately 12,500 sq. ft. of specialty retail uses, and approximately 7,500 sq. ft. of high turnover restaurant use. The project site is adjacent to the existing one-acre Love Commons (a.k.a. Robert Park), located at the northwest corner of the site. The project proposes an additional recreation area adjacent to the park, including a basketball and volleyball court. A total of 465 parking spaces are provided in a surface parking area surrounding the main buildings, with space for an additional 55 spaces if needed in the future. The site is currently occupied by 51,746 sq. ft. of small commercial, industrial and open yard uses, which are in the process of being demolished. Many of these uses are being relocated to the vacant area north of Robert Kiester Place, adjacent to the railroad tracks. The project applicant also proposes to designate the 36-unit income-restricted Storke Ranch apartment project, currently under construction in Goleta as income-restricted housing to offset the demand for lower-income housing anticipated to be generated by the Airport Gateway Center project.

APPLICANT/PROPERTY OWNER NAME AND ADDRESS

Property Owner:

City of Santa Barbara
Airport Department
601 Norman Firestone Road
Santa Barbara, CA 93117

Applicant:

Bermant Development Company
5383 Hollister Ave., Suite 150
Santa Barbara, CA 93111

PROJECT ADDRESS/LOCATION (See Vicinity Map, Exhibit 2)

6100 Hollister Avenue, between David Love Place and Fredric Lopez Road

ENVIRONMENTAL SETTING

The project site is approximately 15 acres in size and is currently occupied by 51,746 sq. ft. of miscellaneous commercial, light industrial and warehouse uses, which are in the process of being demolished. The site is essentially level, with an average slope of less than one percent. The surrounding properties are a mix of industrial and commercial uses, including miscellaneous industrial and open yard uses to the north, the Santa Barbara Municipal Airport to the south, a movie theatre to the east, and miscellaneous office and commercial uses to the west. Minimal vegetation currently exists on the site.

PROPERTY CHARACTERISTICS

Assessor's Parcel Number:	73-080-36	**Airport Specific Plan Designation:**	Industrial
Zoning:	A-I-1/A-I-2-Airport Industrial 1 and 2	**Parcel Size:**	15 acres
Existing Land Use:	51,746 sq. ft. of misc. commercial, light industrial and warehouse uses	**Proposed Land Use:**	180,000 sq. ft. office/industrial complex, incl. 20,000 sq. ft. of retail uses.
Slope:	Less than one percent		
Surrounding Land Uses:			
North:	Industrial/open yard uses		
South:	Airport		
East:	Movie Theatre		
West:	Office, commercial		

PLANS AND POLICY DISCUSSION

The Airport Industrial Area Specific Plan, adopted in 1997, governs new development within the commercial and industrial areas around the Santa Barbara Municipal Airport. The proposed project is consistent with the land use designation of Industrial, and zoning designations of Airport Industrial 1 and 2. The Specific Plan outlines a range of policies and actions which apply to new development within this area, including visual quality, drainage, and transportation. The proposed project is generally consistent with the policies and actions of the Specific Plan.

The discretionary actions required for the proposed project are a Development Plan to allow for 180,000 sq. ft. of non-residential development under City Charter Section 1508, and a modification to allow for the provision of parking below the minimum required by City zoning. This Modification was recommended by the City as a measure to encourage Transportation Demand Management for the project, by providing parking to meet the estimated parking demand for the project, which is less than the amount of parking required by the zoning ordinance.

The Circulation Element of the General Plan includes goals, polices and actions related to pedestrian access and the provision of alternative forms of transportation. The proposed project includes a network of pedestrian walkways around the project site, linking the proposed uses to each other and to Hollister Avenue. Bicycle parking and a transit shelter are also proposed as part of the project

The Specific Plan allows for 240,000 net new square feet within the Specific Plan area. Of this 240,000 square feet, 80,000 square feet is reserved for projects which the City Council determines meet the criteria for Economic Development projects as outlined in Zoning Ordinance Section 28.87.300 and the goals of the Economic Development Plan and Implementation Program and the Economic Community Project. On January 10, 1998, the City Council gave a conceptual qualification to allow the Airport Gateway Center to use the 80,000 sq. ft. of Economic Development square footage. This qualification was granted to allow for the expansion of a local business specializing in a high-tech growth industry, and that would provide additional professional and technical employment in the area. A discussion of the necessary findings to make a final recommendation for the Economic Development square footage for the project will be included in the staff report to the Planning Commission for the proposed Development Plan. A final determination regarding Economic Development square footage will be made by the City Council following a recommendation by the Planning Commission.

The project site is located north of Hollister Avenue, outside of the Coastal Zone, and is therefore not subject to the California Coastal Act nor the City's Local Coastal Plan.

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

A Mitigation Monitoring and Reporting Program has been prepared for the subject project in compliance with Public Resources Code §21081.6. The MMRP is attached herewith as Exhibit 3.

ENVIRONMENTAL CHECKLIST

The following checklist contains questions concerning potential changes to the environment that may result if this project is implemented. If no impact would occur, **NO** should be checked. If the project might result in an impact, check **YES** indicating the potential level of significance as follows:

Known Significant: Known significant environmental impacts. Further review needed to determine if there are feasible mitigation measures and/or alternatives to reduce the impact.

Potentially Significant: Unknown, potentially significant impacts which need further review to determine significance level.

Significant, avoidable: Potentially significant impacts which can be mitigated to less than significant levels.

Less Than Significant: Impacts which are not considered significant.

1. AESTHETICS. Could the project:	NO	YES Level of Significance
a) Affect a public scenic vista or designated scenic highway or highway/roadway eligible for designation as a scenic highway?		Less than Significant
b) Have a demonstrable negative aesthetic effect in that it is inconsistent with Architectural Board of Review or Historic Landmarks Guidelines or guidelines/criteria adopted as part of the Local Coastal Program?		Less than Significant
c) Create light or glare?		Less than Significant

Discussion:

1a. SETTING: The Scenic Highways Element of the General Plan identifies U.S. Highway 101 as being included as eligible for designation as a State Scenic Highway in the State Scenic Highways Master Plan. The project site is located approximately 900 feet south of U.S. Highway 101 along Hollister Avenue, a major transportation corridor through the Goleta area.

ANALYSIS: The project is not anticipated to substantially affect views from Highway 101 or views of the mountains from Hollister Avenue. Existing industrial and open yard uses located between Highway 101 and the project site are likely to screen most of the project from view from Highway 101. In addition, the tallest building proposed on the project site is two stories, and is set back approximately 200 feet from Hollister Avenue. The scale and location of this building on the site is therefore not anticipated to significantly affect public views of the mountains from Hollister Avenue. No other scenic highways or public scenic vistas have been identified in this area.

1b. The project is not anticipated to have a demonstrable negative aesthetic effect. The proposed project has been reviewed by the Architectural Review Board (ABR) on numerous occasions in 1998. The size, bulk, and scale of the buildings, and the proposed site configuration have been found to be acceptable to the ABR, and similar in scale to other industrial parks in the project vicinity. The details of the building design are still in process. However, pursuant to the recently adopted Airport Design Guidelines, the major office/R&D buildings will generally reflect an architectural design with roots in Santa Barbara Hispanic-style architecture. The ABR also requested that these roots be more prominent in the retail buildings along Hollister Avenue.

1c. The project is anticipated to provide lighting in a manner similar to that provided by surrounding land uses, and will be required to be in compliance with the SBMC Section 22.75, the City's Outdoor Lighting and Design Ordinance. Proposed lighting also will be reviewed pursuant to this ordinance to minimize glare which could be hazardous to Airport activities. Therefore, while the project will provide additional lighting to the area, no significant impacts are anticipated.

2. AIR QUALITY. Could the project:	NO	YES Level of Significance
a) Violate any air quality standard or contribute to an existing or projected air quality violation?		Short-term-Significant, Avoidable Long-term-Potentially Significant
b) Expose sensitive receptors to pollutants?		Less than Significant
c) Create objectionable odors?		Significant, Avoidable
Is the project consistent with the County of Santa Barbara Clean Air Plan? Yes		

Discussion:

2a. SETTING: The Federal Clean Air Act Amendments of 1970 established National Ambient Air Quality Standards (NAAQS) for six "criteria pollutants." These include photochemical ozone, carbon monoxide, sulfur dioxide, nitrogen dioxide, particulate matter, and lead. The California Clean Air Act of 1977 created stricter California Ambient Air Quality Standards (CAAQS) for the state. Additionally, the California Air Resources Board has designated areas of the state that are in attainment or non-attainment of the CAAQS. An area is in non-attainment for a pollutant if the applicable CAAQS for that pollutant has been exceeded more than once in three years.

For environmental review purposes, the City of Santa Barbara utilizes CAAQS, as these standards are more stringent than the NAAQS. Presently, the County of Santa Barbara is in non-attainment with CAAQS for ozone (O_3) and particulate matter (PM_{10}). There are also heavily congested intersections within the City and adjacent County area that may approach the California 1-hour standard of 20 parts per million for carbon monoxide (CO) during peak traffic hours.

The City of Santa Barbara uses the Santa Barbara Air Pollution Control District's (APCD) thresholds of significance for air quality impacts. The APCD has determined that a proposed project will not have significant air quality impact on the environment, if:

Operation of the project will:

- emit (from all project sources, both stationary and mobile) less than 240 pounds per day for ROC and NO_x (ozone is formed in the atmosphere through a series of photochemical reactions involving oxides of nitrogen [NO_x] and reactive organic compounds [ROC], referred to as ozone precursors, and sunlight occurring over a period of several hours), and 80 pounds per day for PM_{10} (sources of PM_{10} include mineral quarries, grading demolition, agricultural tilling, road dust, and vehicle exhaust). For CO, the significance threshold may be triggered if the project contributes more than 800 peak hour trips to an individual intersection; and

- emit less than 25 pounds per day of ROC or NO_x from motor vehicle trips only; and
- not cause or contribute to a violation of any California or National Ambient Air Quality Standard (except ozone); and
- not exceed the APCD health risks, public notification thresholds adopted by the APCD Board; and
- be consistent with the adopted federal and state air quality plans for Santa Barbara.

ANALYSIS: The proposed project will contribute to a long-term impact already descried as significant, unavoidable in the Specific Plan FEIR/EA. Since the certification of the FEIR/EA, the Santa Barbara Air Pollution Control District has required the use of a new methodology in determining air quality impacts, which identifies air quality impacts as greater than those identified in the FEIR/EA. A Supplemental EIR is therefore required to evaluate air quality impacts of the Specific Plan and the proposed project using the current methodology. Short-term impacts due to project construction are potentially significant, but avoidable with the incorporation of standard dust control mitigation measures.

Short-Term (Construction) Impacts: The project would involve grading, paving, and landscaping activities which could cause localized dust related impacts resulting in increases in increases in particulate matter (PM_{10}). Dust-related impacts are considered potentially significant, but mitigable with the application of standard dust control mitigation measures.

Construction equipment would also emit NO_x and ROC. However, in order for NO_x and ROC emissions from construction equipment to be considered a significant environmental impact, a proposed project would need to be considered a major project involving extensive use of construction equipment over a long period of time. Based on the size of the proposed project, emissions of NO_x and ROC are anticipated to be less than significant.

Long-Term (Operational Emissions) Impacts: Long-term project emissions primarily stem from motor vehicles associated with the project and from stationary sources which may require permits from the APCD. The project is anticipated to generate approximately 19.85 lbs./day of ROC from stationary sources. The amount of nitrogen-containing materials to be used on the project site is less than 1 Kg per year. Therefore, NOx emissions from stationary sources are anticipated to be minimal, and impacts from stationary sources are anticipated to be less than significant. However, the proposed project will result in 2,349 new average daily trips (ADTs) and 287 p.m. peak hour trips.

Because the proposed project will generate less than 800 peak hour trips to an existing congested intersection, CO impacts are considered less than significant. This conclusion is consistent with the Specific Plan FEIR/EA, which indicates that peak-hour trips associated with the buildout of the Specific Plan would be less than 800, and would therefore not exceed the significance threshold nor contribute to an exceedance of the one-hour State CO standard.

Utilizing the URBEMIS7G computer model, it is estimated that the proposed project will generate 69.51 net new pounds per day of NO_x and 35.03 net new pounds per day of ROC. However, the Specific Plan FEIR/EA utilized an earlier methodology (URBEMIS 5), which concluded that the buildout of the Specific Plan would generate 198.2 new pounds per day of NO_x and 47.56 net new pounds per day of ROC. The use of a different methodology for review of the proposed project creates an inconsistency in the comparative analysis between the proposed project and the previously reviewed Specific Plan, since different assumptions have been used in the development of each methodology.

Section 15163 of the California Environmental Quality Act Guidelines allows for a Supplemental EIR to be prepared in lieu of a Subsequent EIR for project in which "new information of substantial importance, which was not known and could not be known with the exercise of reasonable diligence at the time the previous EIR was adopted, shows...(that) significant effects previously examined will be substantially more severe than shown in the previous EIR." The use of URBEMIS 7G, released in 1998, in review of the proposed project, creates an inconsistent comparison with the air quality analysis completed in the Specific Plan FEIR/EA, certified in 1993. Therefore, since additional information for determining air quality impacts has become available following certification of the EIR, a Supplemental EIR will be prepared, focused on air quality issues.

The Specific Plan FEIR/EA determined that implementation of the Airport Specific Plan would result in a significant, unavoidable impact to air quality. The proposed project is anticipated to contribute to this impact, the extent of which will be analyzed in the Supplemental EIR.

2.b. SETTING: Sensitive receptors are defined as children, elderly, or ill people which can be more adversely affected by air quality problems. Types of land uses typically associated with sensitive receptors include schools, parks, playgrounds, child care centers, retirement homes, convalescent homes, hospitals, and clinics. Stationary sources are of concern to sensitive receptors.

ANALYSIS: No significant adverse effects to sensitive receptors are anticipated as a result of the project. The proposed project site is adjacent to a movie theater, which is generally frequented by individuals which may be defined as sensitive receptors. As stated above under 2.a., the extent of emissions from stationary sources is anticipated to be less than significant. However, the proposed project will generate PM_{10}, which will be reduced to a less than significant level through application of dust control mitigation measures. The insignificant amounts of these pollutants are anticipated to result in an insignificant exposure of sensitive receptors to pollutants. The majority of project-related ROC and NOx emissions are anticipated to occur during the weekday morning and evening peak hour, when traffic in the area is at its highest level. The movie theater is generally used more frequently during the weekends, when there is minimal project-related traffic, and therefore minimal associated ROC and NOx emissions.

2c. The proposed commercial space may include restaurants, which have the potential to create objectionable odors if ventilation is not properly controlled. Implementation of an approved Odor and Smoke Abatement Plan for any proposed restaurant use, approved by both the City and the Santa Barbara County Air Pollution Control District (APCD) would reduce potential impacts to a level below significance.

Consistency with the Clean Air Plan: Consistency with land use and population forecasts in local and regional plans, including the Clean Air Plan (CAP) is required under CEQA for all projects. Proposed projects subject to 1994 CAP consistency determinations include a wide range of activities such as commercial, industrial, residential, and transportation projects. By definition, consistency with the CAP, means that direct and indirect emissions associated with the project are accounted for in the CAP's emissions growth assumptions and the project is consistent with policies adopted in the CAP. The CAP relies primarily on the land use and population projections provided by the Santa Barbara County Association of Governments and Air Resources Board on-road emissions forecast as a basis for vehicle emission forecasting.

The proposed commercial/industrial project was accounted for in the land use and population projections provided by the Santa Barbara County Association of Governments and Air Resources Board on-road emissions forecast as a basis for vehicle emission forecasting. Therefore, the proposed project is consistent with the CAP.

Mitigation Measures:

The following mitigation measures from the Airport Specific Plan FEIR/EA are applicable to this project, and are numbered as they appear in the FEIR/EA:

To ensure that fugitive dust emissions would remain insignificant and would not become a nuisance during construction of Specific Plan buildings and road-ways, the following standard APCD dust control measures shall be implemented:

3.9-1 Apply water at least twice daily to dirt roads, graded areas and dirt stockpiles to prevent excessive dust from leaving the staging areas.

3.9-2 Minimize vehicle speeds.

3.9-3 Disturb the smallest practical amount of area and minimize disturbance time.

3.9-4 After completion of construction activities, treat disturbed soil within the staging area by watering, re-vegetating or spreading soil binders to prevent wind erosion of the soil.

3.9-5 Soil stockpiled for more than two days shall be covered, kept moist or treated with soil binders.

3.9-6 During building demolition, water application or shrouding shall be used, as necessary, to ensure that dust emissions from this activity do not create a nuisance.

3.9-7 The contractor shall designate personnel to monitor construction activities and ensure that excessive dust would not occur from construction sites.

3.9-8 New habitable buildings or additions of 5,000 square feet or more shall be reviewed by an energy specialist and recommendations made to reduce energy usage. The City shall review and incorporate the recommendations as appropriate, prior to issuance of building permits.

3.9-9 Encourage the use of alternative transportation modes by employees of businesses and other facilities within the Specific Plan area. If and when a Goleta Valley alternative transportation program is developed to reduce traffic and/or air quality impacts which applies to all existing and future businesses in the Valley, provisions shall be incorporated into leases that would require that the program apply to all new businesses in the Specific Plan area. Include a clause in all leases that allows the lease to be reopened if such a program is adopted after the lease is approved so that existing businesses would also participate in the regional program.

The following additional mitigation measure is recommended to reduce project-specific air quality impacts relative to smoke and odors:

AQ-1 The applicant shall prepare an Odor and Smoke Abatement Plan, to be approved by both the City and the County Air Pollution Control District (APCD) prior to the issuance of a building permit for any restaurant use.

Residual Impact: Implementation of the mitigation measures are anticipated to reduce impacts from project construction and odors/smoke to a less than significant level. Long-term operational impacts will be addressed in the Supplemental EIR

3. BIOLOGICAL RESOURCES. Could the project result in impacts to:	NO	YES Level of Significance
a) Endangered, threatened or rare species or their habitats (including but not limited to plants, fish, insects, animals, and birds)?	✓	
b) Locally designated historic, Landmark or specimen trees?	✓	
c) Natural communities (e.g. oak woodland, coastal habitat, etc.).	✓	
d) Wetland habitat (e.g. marsh, riparian, and vernal pool)?		Short term-Significant, Avoidable Long term- Less than Significant
e) Wildlife dispersal or migration corridors?	✓	

Discussion:

3a,e. The project will not impact endangered, threatened or rare species or habitat, nor wildlife dispersal or migration corridors. The Specific Plan FEIR/EA indicates that no impacts on endangered or threatened species are associated with the Specific Plan. The project site is currently developed with miscellaneous commercial and industrial uses, and is surrounded by existing commercial and industrial development. Minimal vegetation exists on the site.

3b. No skyline or specimen trees exist on-site.

3c. The Specific Plan FEIR/EA classifies the project site as a combination of roadside vegetation and developed land. These two classifications are not natural communities.

3d. The Specific Plan FEIR/EA indicates that storm water runoff from the Airport area generally drains into the Goleta Slough, an environmentally sensitive marshland and riparian habitat. The FEIR/EA identified the potential for water quality degradation in the Goleta Slough from increased non-point source pollution in storm water runoff. Mitigation Measures 3.12-1 and 3.16-1 (outlined below) were incorporated into the FEIR/EA to mitigate water quality impacts from Specific Plan buildout to a less than significant level.

The project has received favorable comments from the Goleta Slough Management Committee (GSMC), which reviewed the project in May 1998., pursuant to FEIR/EA Mitigation Measure 3.16-1. The GSMC asked that landscaping in retention areas be provided using wetland materials, and that overall landscaping use native materials, and this request is included as a recommended mitigation measure in this Initial Study. to be approved by the Architectural Board of Review prior to the issuance of a building permit for the project.

Mitigation Measures:

The following mitigation measures from the Airport Specific Plan FEIR/EA are applicable to this project, and are numbered as they appear in the FEIR/EA:

3.12-1 A Drainage and Erosion Control Plan is required for each project requiring grading, as a standard operating procedure prior to project approval. These plans would include the following:

- Schedule construction to minimize the amount of graded soil exposed at any given time.
- Install sedimentation, silt and grease traps in paved areas as appropriate, to minimize pollution and turbidity in the Goleta Slough. The Plan shall provide for periodic maintenance of these traps beyond the construction period to provide for long-term water quality protection of the Slough.
- Clear brush and vegetation only as required to accommodate necessary grading.
- To the extent feasible, limit grading activities to the non-rainy season. If construction during the rainy season is unavoidable, use silt fences, straw bales and other erosion control measures, as necessary, to control siltation of local drain-ages during wet periods.
- Cover stockpiled fill soils.
- Seed and plant disturbed areas with native vegetation immediately following construction activities.
- Protect (e.g., riprap) any new storm drain outlets as appropriate to prevent scouring at the point of discharge.
- Provide dust control by wetting exposed soil surfaces.
- Apply any other Best Management Practices appropriate to the project to protect surface water quality.
- As with the proposed action, new industrial tenants would be required to pro-vide information regarding any potential discharges (storm water, industrial processes or otherwise) that would potentially require an NPDES permit.

3.16-1 The Airport shall continue to participate in and support the goals of the Goleta Slough Management Committee (GSMC) and shall support the development and implementation of the Goleta Slough Ecosystem Management Plan. The Airport shall assist the GSMC in finding funding to support the Committee and its activities over the long-term. The Airport shall make available any reports on water quality monitoring and other information relating to the City-owned portion of the Goleta Slough. Any projects in the Specific Plan area that result in drainage to the Slough or its tributary creeks shall be referred to the GSMC for review and comments.

The following additional mitigation measure is recommended to further reduce project-specific impacts to biological resources:

BIO-1 Landscaping in retention areas should be provided using wetland materials, and overall landscaping should utilize native materials, as approved by the Architectural Board of Review prior to the issuance of a building permit for the project.

Residual Impact: Implementation of the mitigation measures would further reduce an already less than significant impact.

4. CULTURAL RESOURCES. Could the project:		NO	YES Level of Significance
a)	Disturb archaeological resources?		Significant, avoidable
b)	Affect a historic structure or site designated or eligible for designation as a National, State or City landmark?		Significant, avoidable
c)	Have the potential to cause a physical change which would affect ethnic cultural values or restrict religious uses in the project area?	✓	

Discussion:

4a. Impacts to archaeological resources are anticipated to be significant, but avoidable through the incorporation of mitigation measures outlined in the extended Phase 1 and 2 report prepared for the project site by Science Applications International Corporation (SAIC) in October 1998.

The Specific Plan FEIR/EA indicates that the project site is almost completely within either a low, moderate or high sensitivity area of the Prehistoric and Historic Native American sensitivity zone. The high sensitivity zone is associated with pre-historic sites SBA-59 and SBA-60, and the potential location of the San Miguel Chapel. The FEIR/EA concludes that ground disturbances in these areas could impact intact archeological materials, thereby creating an significant impact on cultural resources. The mitigation measures in the FEIR/EA are anticipated to reduce these impacts to a less than significant level.

The FEIR/EA indicated that the Phase 1 archaeological study prepared for the FEIR/EA by Snethcamp and Associates in 1993 was programmatic and more general in nature, and that further Phase 1 and Phase 2 study would be required for any future ground disturbing activity in the high and moderate Prehistoric and Native American sensitivity zones area. This requirement is reflected in FEIR/EA Mitigation Measure 3.13-1 outlined below.

Pursuant to this mitigation measure, an extended Phase 1 and 2 study of the project area was prepared for the Airport Area Infrastructure Improvement Plan, a program for roadway, drainage and utility improvements in the vicinity of the project site. This extended study, prepared SAIC in April 1998 to determine the potential for project-specific impacts, defined to location of SBA-59 and its 30-meter

buffer area in relation to the project site. Site investigations conducted as part of this study indicated the presence of artifacts of sufficient number and variety to suggest that the project site would contribute important information regarding Chumash occupation of the area. This study indicated that capping of the project site with paving, landscaping, or other near surface improvements would remove the site form future investigation, and is therefore considered an indirect impact. As SBA-59 is considered a regionally significant resource, indirect impacts would be considered significant.

The SAIC study indicated that the exact nature of the proposed development on the project site, particularly the details of the proposed grading plan, was not known at the time of publication. The SAIC study therefore recommended further Phase 1 and 2 study be conducted once plans for the project site had been more fully developed. The study also concludes that a Phase 3 data recovery, index sampling, and monitoring program be developed for the project site, which is anticipated to reduce project impacts to a less than significant level. The SAIC study was accepted by the Historic Landmarks Commission (HLC) in May 1998.

The project has been designed so that the portion of the site within the high and moderate sensitivity zone is developed with minimal building area, so the majority of the area would consist of surface level improvements.

An additional Phase 1 and 2 study was prepared specifically for the project site by SAIC in October 1998. This study further discussed the significance of the SBA-59 and SBA-60 sites, and outlined the requirements for a Phase 3 data recovery, index sampling, and monitoring program, including the required amount of sampling and the sampling methods to be used. This additional study was accepted by the HLC on October 28, 1998, and the recommendations have been incorporated into mitigation measure CR-1 outlined below. This additional Phase 1 and 2 study concluded that implementation of the Phase 3 recommendations for the project are anticipated to reduce project impacts to a less than significant level.

This conclusion is consistent with the Archaeological, Historic, and Cultural Resources impact findings of the FEIR/EA for the Santa Barbara Municipal Airport Industrial/Commercial Specific Plan (Airport Specific Plan). The FEIR/EA determined that implementation of the Airport Specific Plan would result in a significant, unavoidable impact to Archaeological, Historic, and Cultural Resources. The project specific Archaeological, Historic, and Cultural Resources impact described above does not result in a new significant Archaeological, Historic, and Cultural Resources impact or a substantial increase in the severity of the identified Archaeological, Historic, and Cultural Resources impact described in the FEIR/EA for the Airport Specific Plan.

4b. The existing historic structures on the site (Parachute Building, Dope and Spray Building, and Maintenance Hangar) are in the process of being demolished, and have been documented as required by FEIR/EA Mitigation Measure 3.13-2. The documentation for these buildings was prepared as required by the Historic Landmarks Commission, and in accordance with the City's requirements for documentation of historic buildings prior to demolition.

4c. The proposed project includes commercial and R&D uses, which are not anticipated to affect ethnic cultural values, and the Specific Plan does not permit religious uses on the project site. No religious uses currently exist on the project site.

Mitigation Measure(s):

The following mitigation measures from the Airport Specific Plan FEIR/EA are applicable to this project, and are numbered as they appear in the FEIR/EA:

3.13-1 All ground disturbances within the high and moderate Prehistoric and Historic Native American sensitivity zone shall be subject to a Phase 1 archaeological study prior to construction, and those in the low sensitivity zone to a surface Phase 1 survey, performed consistent with the City MEA Cultural Resources Guidelines. Any required subsurface identification testing, significance testing or mitigation activities shall be elements of a Cultural Resources Management Plan prepared consistent with the City MEA Cultural Resources guidelines for Phase 1, 2 and 3 studies.

The following project-specific measure is therefore proposed:

CR-1 The applicant shall develop a Phase 3 data recovery, index sampling, and monitoring program, in accordance with the Phase 1 and 2 recommendations approved by the Historic Landmarks Commission on October 28, 1998, subject to review and approval by the City Environmental Analyst and the Historic Landmarks Commission, prior to the issuance of permits for any ground disturbing activity. A contract to carry out the Phase 3 program shall be approved by the City Environmental Analyst prior to issuance of permits for any ground disturbing activity. A final report on the results of the Phase 3 program shall be submitted to the City Environmental Analyst within 180 days of completion of the program, or prior to the issuance of the first Certificate of Occupancy for the project, whichever is earlier.

Residual Impact: Implementation of the mitigation measures would reduce impacts to archeological resources to a less than significant level.

5. GEOPHYSICAL. Could the project result in or expose people to:	NO	YES Level of Significance
a) Seismicity: fault rupture?		Less than Significant
b) Seismicity: ground shaking or liquefaction?		Less than Significant
c) Seismicity: seiche or tsunami?		Less than Significant
d) Landslides or mudslides?	✓	
e) Subsidence of the land?	✓	
f) Expansive soils?	✓	
g) Excessive grading or permanent changes in the topography?		Less than Significant

Discussion:

5a. Impacts from fault rupture are anticipated to be less than significant. A Geological and Geotechnical Engineering Report was prepared for the project by Fugro West, Inc. in April 1998 (Exhibit 4). The report indicated that the More Ranch fault system, located approximately 5,000 feet south of the project site, is the closest significant fault to the site, and is generally considered to be at least potentially active. This system is not listed by the State of California Division of Mines and geology as an active fault. The report concluded that because no active or potentially active faults have been mapped that cross or trend towards the project site, the potential for ground rupture due to faulting appears to be low.

5b. Impacts from fault rupture and liquefaction/ground shaking are anticipated to be less than significant. The Geological and Geotechnical Engineering Report for the project indicates that the artificial fill and alluvial strata below the groundwater level on the project site contain very loose to medium dense granular soils, which are considered to be susceptible to liquefaction. The Report, required by the Uniform Building Code, outlines measures to reduce impacts from liquefaction, including over-excavation of affected soil layers and additional soil compaction measures. These measures, which are consistent with Uniform Building Code requirements, will be incorporated into the project design to mitigate impacts from liquefaction to a less than significant level.

5c. No significant impacts relative to tsunamis or seiches are expected to occur as a result of the proposed project.

SETTING: Tsunamis or seismic sea waves are large ocean waves generated by a vertical displacement of the ocean floor, usually by a large earthquake. The City's Seismic Safety/Safety Element indicates that tsunamis are very low frequency events in the Santa Barbara area. Two tsunamis have occurred in the past 185 years and only one of those, in 1812, had the potential to cause significant damage. A seiche is a seismically induced oscillation of a landlocked body of water. The closest body of water which could be subject to a seiche is Lake Los Carneros, which is approximately one mile upstream from the proposed project site, and is separated from the project site by U.S. Highway 101. Damage occurs when these bodies of water overtop their containment and inundate properties and structures downstream.

ANALYSIS: The Geological and Geotechnical Engineering Report prepared for the project indicated that the project site is located approximately 6,000 feet from the confined inlet to the Goleta Slough and is currently at an elevation ranging from 13 to 20 feet above sea level. The planned grade for the site is approximately 18 feet above sea level. Given these conditions, the report concludes that tsunami-run up to the project site would have a minimal impact. As the closest landlocked body of water is approximately one mile upstream from the project site and is separated form the project site by U.S. 101, the potential for an adverse impact from a seiche event is low.

5d. The project site is located in an area of essentially level terrain. Therefore, no impacts from landslide or mudslides are anticipated.

5e. SETTING: Subsidence occurs from the withdrawal of fluid from underground reservoirs of water or petroleum products.

ANALYSIS:. The Geological and Geotechnical Engineering Report prepared for the project indicates no known subsidence occurring from removal of fluids from underground reservoirs in the region.

The Report indicates that the compressible nature of the upper soil materials creates the potential for some settling to occur on the site due to local or regional lowering of the groundwater level. However, the maximum amount of such settling is anticipated not to exceed several inches. Therefore, subsidence impacts are anticipated to be less than significant, and further reduced through the construction measures outlined in the Report, as required by the Uniform Building Code.

5f. No expansive soils are known to exist on the project site.

5g. The proposed grading for the project includes 3,000 cu yds. of cut and 33,000 cu. yds. of fill, to level the site to approximately 18 feet above sea level, from an existing elevation range of 13 to 20 feet above sea level. The majority of fill is anticipated to come from grading operations in conjunction with the Airport Area Infrastructure Plan improvements around the project site. Much of the fill material to be imported to the site will be used to create the berms that will form the retention basin and aesthetic treatment for the project frontage along Hollister Avenue. These berms have been reviewed by the Architectural Board of Review, who have found the proposed berm configuration acceptable. Therefore, the amount of grading proposed is not considered to be excessive. Because the project site is located in an area that is essentially level, and the project elevation of 18 feet is within the range of the existing site elevations, the project is not anticipated to create adverse permanent changes in topography.

6. HAZARDS. Could the project involve:		NO	YES Level of Significance
a)	A risk of accidental explosion or release of hazardous substances (including, but not limited to: oil, pesticides, chemicals or radiation)?		Significant, Avoidable
b)	The creation of any health hazard or potential health hazards?		Significant, Avoidable
c)	Exposure of people to existing sources of potential health hazards?	✓	
d)	Increased fire hazard in areas with flammable brush, grass, or trees?	✓	

Discussion:

6a,b. Impacts from hazards are anticipated to be significant, but avoidable through the implementation of mitigation measures from the Specific Plan FEIR/EA.

The proposed project will be storing hazardous materials on-site, including chemicals used for project research and motor oil for company vehicles. The project is estimated to generate approximately 1,500 gallons of hazardous materials annually from medical research chemicals and waste motor oil. There is no threshold of significance for impacts from hazardous materials, however, the storage and use of these materials on-site could likely have a potential adverse impact. Implementation of a Business Plan, as required by State Fire Code for businesses involving the use/storage of hazardous

materials, will minimize the risk of accidental explosion or release of these materials, and reduce the risk of health hazards and potential health hazards to a less than significant level. This State Fire Code requirement is consistent with FEIR/EA Mitigation Measure 3.10-2 (outlined below) requiring a project specific remediation plan for new development within the Specific Plan area. While the proposed office/R&D tenant in the project has a Business Plan for its existing operations at its current Goleta Facility, a revised Plan will be required to be submitted for the new facility on the project site.

The Specific Plan FEIR/EA also identified the potential for water quality degradation in the Goleta Slough from increased non-point source pollution in storm water runoff. Mitigation Measures 3.12-1 and 3.16-1 (outlined in Biological Resources Section above) were incorporated into the FEIR/EA to mitigate water quality impacts from Specific Plan buildout to a less than significant level.

6c. The project site contains 51,746 sq. ft. of existing general commercial and industrial development which is in the process of being demolished. Asbestos abatement has been completed. In addition, the site is currently in the final stages of hazardous materials remediation from soil and groundwater contamination from three underground fuel tanks listed on the County's Leaking Underground Fuel tank (LUFT) list- two on David Love Place and one on Mollenhauer Road. The FEIR/EA also notes that the industrial use of the area, and the former use of the project site as a military air station create the potential for additional site contamination beyond that identified in the FEIR/EA. The FEIR/EA therefore includes mitigation measure 3.10-1 (outlined below), which requires a construction contingency plan for new projects in the event that on-site contamination is discovered during grading and construction activities. Implementation of this measure is anticipated to reduce potential impacts to a less than significant level.

The Specific Plan FEIR/EA also identified the potential for encountering subsurface contamination during grading activities related to new construction. Mitigation Measures 3.12-1 and 3.16-1 (outlined in Biological Resources Section above) were incorporated into the FEIR/EA to mitigate water quality impacts from Specific Plan buildout to a less than significant level.

6d. The project is not located in a high fire hazard area, nor in an area of flammable brush, grass or trees.

Mitigation Measures:

The following mitigation measures from the Airport Specific Plan FEIR/EA are applicable to this project, and are numbered as they appear in the FEIR/EA:

(See Mitigation Measures 3.12-1 and 3.16-1 under Biological Resources section above).

3.10-1 A Construction Contingency Plan shall be developed addressing methods to control potential migration of contamination discovered during construction as well as safety considerations for on-site personnel and the general public. Details of the plan shall include but not be limited to the following:

- Procedures for identification of contaminated soil including an on-site monitor observing earthmoving operations who has experience in hazardous waste and contaminated sites.

- Measures that shall be taken immediately to protect workers and the public from exposure to contaminated areas (e.g., fencing or hazard flagging, covering of contaminated soils with plastic, etc.) and prevent migration of the contaminants to the surrounding environment.

- Steps to be taken following initial discovery of contaminated soils. Notification shall be made to the Santa Barbara County Hazardous Materials Unit (HMU) immediately following identification of contamination within the construction area.

3.10-2 Following initial actions specified in the Construction Contingency Plan, a project-specific remediation plan would need to be developed and implemented to reduce contaminant concentrations to acceptable levels. The details of the plan would be dependent upon the extent and types of contamination but would include characterization of the problem, a review of the remedial options (i.e., feasibility study) and a detailed plan for implementation of the chosen alternative. These plans would require review and approval by HMU and Airport staff, taking into account potential flooding impacts and prevention of contaminant runoff into nearby creeks. Excavation and any other remediation activities necessary shall be consistent with all biology, air quality (dust suppression), archaeology and other mitigation measures applicable to the project.

Residual Impact: Implementation of the mitigation measures would reduce potential impacts to a less than significant level.

7. NOISE. Could the project result in:	NO	YES Level of Significance
a) Increases in existing noise levels?		Less than Significant
b) Exposure of people to severe noise levels?		Less than Significant

Discussion:

7a-b. SETTING: Noise guidelines are established in the City's Noise Element and in Chapter 9.16 of the Santa Barbara Municipal Code. The Noise Element states that the maximum acceptable exterior Day-Night Noise Level (L_{dn}) 75 dB(A) for office uses, 80 dB(A) for industrial and manufacturing uses, 60 dB(A) for residential uses, and 65 dB(A) for (neighborhood) parks. It is important to note that these guidelines are intended for long-term, permanent land uses, and do not necessarily include short-term construction activities.

The L_{dn} averages the varying sound levels occurring over the 24-hour day and gives a 10 decibel penalty to noises occurring between the hours of 10:00 p.m. and 7:00 a.m. to take into account the greater annoyance of intrusive noise levels during nighttime hours. Since L_{dn} is a 24-hour average noise level, an area could have sporadic loud noise levels above 60 dB(A) which average out over the 24-hour period. CNEL is similar to L_{dn} but includes a separate 5 dB(A) penalty for noise occurring between the hours of 7:00 p.m. and 10:00 p.m. CNEL and L_{dn} values usually agree with one another within 1 dB(A). The Equivalent Noise Level (L_{eq}) is a single noise level which, if held constant during the time period, would represent the same total energy as a fluctuating noise. L_{eq} values are commonly expressed for periods of one hour, but longer or shorter time periods may be specified.

The Airport Specific Plan FEIR/EA estimates that noise level in the project area is less than 60 dB CNEL. The City's land use compatibility guidelines indicate that the normally acceptable exterior noise exposure level for office buildings and commercial retail uses is 75 dB Ldn. The normally acceptable exterior noise exposure level for the existing Love Commons/Robert Park abutting the project site is 65dB. The Santa Barbara Municipal Airport is located approximately 1,200 feet south of the project site. The project site is exposed to noise levels of 60 dB CNEL or less as a result of aircraft operations. Highway 101 is located approximately 1,100 feet north of the project site and the railroad tracks are located approximately 475 feet north of the project site. Noise from these sources at these distances distance would be approximately 60 dB Ldn. As the existing noise level on the project site is within the 60 dB CNEL noise contour, as discussed in the Specific Plan FEIR/EA, the project site is not currently impacted by existing noise sources.

ANALYSIS:

Long-Term (Operational) Impacts: Noise impacts from project operation and traffic are anticipated to be less than significant

i. Vehicular Noise:

The Noise Analysis prepared for the project (Exhibit 5) indicates that existing plus project noise levels for both on-site and off-site project-related traffic would be approximately 60 dB L_{dn}. The City's land use compatibility guidelines indicate that the normally acceptable exterior noise exposure level for office buildings and commercial retail uses is 75 dB L_{dn}. The normally acceptable exterior noise exposure level for the existing Love Commons/Robert Park abutting the project site is 65dB L_{dn}. The Noise Analysis indicates that the increase in project-related traffic would increase the adopted noise level along Hollister Ave by 0.5 dB from the existing level. While the City does not have an adopted significance threshold for increases in the ambient noise level, the anticipated 0.5 dB increase is not anticipated to be noticeable, and therefore less than significant.

ii. Other On-Site Noise

On-site activities such as loading and unloading, are anticipated to generate noise levels of approximately 50 to 55 dB at a distance of 100 feet from loading areas. Love Commons/Robert Park is located more than 100 feet from the nearest loading dock, and the existing movie theatre would be approximately 500 feet from the nearest loading dock. These recreational uses would therefore not be significantly impacted by the proposed project. The only other uses within 100 feet of loading areas are those contained on the project site. As loading and unloading activities are anticipated to be of a relatively short duration during the day, the noise impact is anticipated to be less than significant.

On-site noise is also anticipated from operations such as parking lot sweeping and operation of mechanical equipment. Parking lot sweeping is anticipated to occur during evenings or weekends when the parking lot is not generally in use. The noise associated with parking lot sweeping equipment is generally similar to that associated with other construction equipment. As discussed below under construction impacts, the existing theatre is 165 feet from the eastern project boundary and is not anticipated to be significantly affected by noise levels from project construction, and is therefore not anticipated to be impacted by similar noise levels from parking lot sweeping. Love/Commons/Robert Park is anticipated to be generally utilized by

project employees during the day, and will therefore not be affected by parking lot sweeping operations.

While the specific details of operation of mechanical equipment on the project site, such as air circulation and purification systems, are not yet known, modern mechanical equipment is generally quieter in its operation than in the past. Given the building setbacks from the surrounding properties, the noise impacts from operation of mechanical equipment are anticipated to be less than significant.

Short-Term (Construction) Impacts: Noise impacts from project operation and traffic are anticipated to be less than significant.

The use of heavy equipment at the site for project construction may produce high ambient noise levels. Construction equipment can generate noise levels between 80 to 85 dB(A) at a distance of 50 feet and shorter impulsive noises from some construction equipment could be even higher, up to and over 100 dB(A).

The Noise Analysis prepared for the project indicates that the maximum noise levels at 50 feet would likely range from 75 to 90 dB during project construction, but that an hourly range of 75 to 80 dB at 50 feet was typical. Noise generated during project construction activities could result in a short-term adverse construction impact to receptors in the area. However, the nearest single-family residence is more than ¼ mile away from the project site. Given this distance, the maximum noise levels from project construction would range from 47 to 62 dB, and the hourly average noise level would range from 47 to 52 dB L_{dn} at the nearest residence. These levels are within the City's maximum acceptable exterior noise guidelines. Therefore, impacts to residences would be less than significant during project construction.

The existing movie theatre is located approximately 165 feet from the eastern project boundary. The Noise Analysis indicates that at this distance, construction noise would range from 65 to 70 dB L_{dn} at the theatre. As the City's maximum acceptable exterior noise level for theater uses is 75 dB L_{dn} impacts to the theatre from construction noise are considered to be less than significant.

The project site is also adjacent to Love Commons/Robert Park. This facility is generally used by employees in the project area rather than the community at large. Noise impacts are anticipated at the project site, however, as noted above, construction noise is generally intermittent and sporadic. Given the short-term duration of project construction, noise impacts to Love Commons are anticipated to be less than significant.

While construction noise is anticipated to have a less than significant impact, standard City noise control mitigation measures have been incorporated into this Initial Study to further reduce potential impacts.

Recommended Mitigation Measure(s):

Noise-1. Noise generating construction activity should be prohibited Saturdays, Sundays, and holidays and between the hours of 5 p.m. to 8 a.m. Holidays are defined as those days which are observed by the City of Santa Barbara as official holidays by City employees.

Noise-2 All construction equipment, including trucks, should be professionally maintained and fitted with standard manufacturers' muffler and silencing devices.

Residual Impact: Implementation of the recommended mitigation measures would further reduce an already less than significant impact from construction-related noise.

8. POPULATION AND HOUSING. Could the project:	NO	YES Level of Significance
a) Induce substantial growth in an area either directly or indirectly (e.g. through projects in an undeveloped area or extension of major infrastructure)?		Less than Significant
b) Displace existing housing, especially affordable housing?	✓	

Discussion:

8a. A Socio-economic Impact Analysis prepared for the project (Exhibit 6) estimates that the project could generate up to 890 total short-term direct construction jobs throughout the approximately two-year project construction period, with a maximum of 150 workers per day. These direct construction jobs are estimated to generate up to 525 indirect construction support jobs. The Analysis concludes that given the short duration of the project construction and the use of local labor, the construction of the proposed project is not anticipated to have a significant impact on housing, or induce substantial growth in the South Coast.

Operation of the proposed project is estimated to generate approximately 497 long-term employees within the County, approximately 134 of which are estimated to in-migrate to Santa Barbara. These 134 employees are estimated to generate a total population in-migration of 358 people, assuming an average household size of 2.67, the estimate used in the Specific Plan FEIR/EA. As project hiring is proposed over a period of approximately four years, not all new employees and households are expected to in-migrate at the same time. However, it is estimated that the majority of hiring and in-migration will occur within the first three years of the project.

The Socio-economic Impact Analysis indicates that 1,429 new housing units are approved for construction in the South Coast (approximately 771 are currently under construction), and another 1,000 are currently proposed. While the project is not expected to directly induce substantial growth in undeveloped areas, the project will generate a demand for additional housing for the estimated 134 in-migrating employees. However, given the number of new units approved or proposed, the project is not anticipated to have a significant growth inducing impact.

8b. No housing units currently exist on the project site. Therefore, the project will not displace existing housing.

9. PUBLIC SERVICES. Could the project have an effect upon, or result in a need for new or altered services in any of the following areas:	NO	YES
		Level of Significance
a) Fire protection?		Less than Significant
b) Police protection?		Less than Significant
c) Schools?		Significant, Unavoidable*
d) Maintenance of public facilities, including roads?		Less than Significant
e) Other governmental services?		Less than Significant
f) Electrical power or natural gas?		Less than Significant
g) Water treatment or distribution facilities?		Less than Significant
h) Sewer or septic tanks?		Less than Significant
i) Water distribution/demand?		Less than Significant
j) Solid waste disposal?		Significant, Unavoidable**

Discussion:

9a-b. The Specific Plan FEIR/EA does not discuss impacts to Police and Fire services. The Initial Study prepared for the Specific Plan in 1993 indicates that fire flow on the north side of Hollister Avenue is adequate to handle the expected buildout of the Specific plan in this area. The Airport provides its own Police service to the area with backup service from the City Police Department and County Sheriffs Department. The Initial Study prepared for the Specific Plan concludes that the Specific Plan buildout would not have a significant impact on Police and Fire Services.

9c. SETTING: Commercial projects generate new elementary and secondary students to the extent that new employment could be created by the project which results in new residents to the area. Unlike a residential project which falls into a defined school attendance area, students generated by a commercial/industrial development could live and attend a school in any area of the South Coast. It is possible that some students generated by this project would live outside the boundaries of the Goleta Union, Santa Barbara or Hope School Districts or attend private schools.

ANALYSIS: Project-specific impacts to schools are anticipated to be less than significant. However, the Specific Plan FEIR/EA has indicated that cumulative impacts relating to school overcrowding would be significant and unavoidable.

The Socio-economic Impact Analysis prepared for the project (Exhibit 6), estimates that the project would increase student population by 80 new elementary school students, 32 junior high students, and 21 high school students, using the methodology from the Specific Plan FEIR/EA. The analysis notes that it is unknown where the students will live, and assumes that the student population would be dispersed throughout the schools within the South Coast. The analysis adds that the project would add a relatively small number of students over a several year period, and is therefore not expected to

significantly impact any particular school or district. The Analysis concludes that given that no school in the South Coast has declared overcrowded conditions as defined by state law, the project is not anticipated to have a significant impact on schools. None of the school districts in the South Coast are "overcrowded" as defined by California State law. Impact fees in accordance with State law would be required for the project.

*This conclusion is consistent with the FEIR/EA, which indicates that no project-specific impacts were identified for the Specific Plan Economic Development alternative scenario. However, the FEIR/EA also concludes that cumulative impacts relating to school overcrowding would be significant and unavoidable, since impact fees may not fully mitigate school overcrowding in the future.

The project specific impact to schools described above does not result in a new significant impact to schools or a substantial increase in the severity of the identified impact to schools described in the FEIR/EA for the Airport Specific Plan.

9d,g. The Airport is currently implementing an Airport Area Infrastructure Plan, an implementation measure for the Specific Plan which includes drainage, utility (water distribution, sewer transmission, and drainage system upgrades), and roadway improvements north of Hollister Avenue around the project site. The improvements are anticipated to be completed prior to commencement of project construction. With these improvements in place, the project is not anticipated to have a significant impact on public facilities.

9e,f. The project is located in an area that is already developed, and served by existing services. Electrical service is provided to the area by Southern California Edison, and gas service is provided by the Southern California Gas Company. The Initial Study prepared for the Specific Plan indicates that no significant impacts to electric and gas service are expected to occur under buildout of the Specific Plan. No significant project-specific impacts are anticipated to occur to other government services.

9h. SETTING: The Initial Study prepared for the Specific Plan indicates that sewer service for the Airport is provided by the Goleta Sanitary District, whose facility has a design capacity of 9.7 million gallons per day (MGD). However, the permit to operate from the Regional Water Quality Control Board limits processing to 7.9 MGD. According to the Public Works Water Resources Division, sewage generation for non-residential projects is approximately 83.86% of water demand (the remaining 16.14% is used for landscaping, etc., and is not captured by the sewage system).

ANALYSIS: The Specific Plan FEIR/EA does not discuss sewer impacts. The Initial Study for the Specific Plan concluded that buildout of the Specific Plan would not have a significant impact in sewer service. The project's estimated net new water demand is 16.95 acre feet/yr., or 15,131 gallons/day (See 9.i below). The project will produce approximately 12,688 net new gallons of sewage per day.

9i. SETTING: Water is supplied to the Airport and Airport tenant properties by an agreement with the Goleta Water District. This agreement provides for an annual allotment of 240 acre-feet. The Specific Plan FEIR/EA indicates that the Economic Development Alternative would increase total water demand for the Airport properties to 142-acre feet per year, which is within the 240-acre feet allotment.

ANALYSIS: The existing development on the site demands 2.6 AFY of water. The proposed project is estimated to demand 19.55 AFY (based on the City's Water Demand Factor and Conservation Study "User's Guide" Document No. 2). Therefore, the change in water use would be approximately 16.95 AFY. When added to the 1993 water usage baseline of 104 AFY identified in the Specific Plan

FEIR/EA, the water usage in the Specific plan area would increase to 120.95 AFY, which is within the 240 AFY allocated to the Airport area. The potential increase in demand of 16.95 AFY would not significantly impact the water supply available to the Airport.

9j. SETTING: Most of the waste generated in the City is transported on a daily basis to seven landfills located around the County. The County of Santa Barbara, which operates the landfills, has developed thresholds related to the impacts of development on remaining landfill capacity. The County's thresholds are based on the projected average solid waste generation for Santa Barbara County from 1990-2005. The County assumes a 1.2% annual increase (approximately 4000 tons per year) in solid waste generation over the 15-year period.

The County's threshold for project specific impacts to the solid waste system is 196 tons per year (this figure represents 5% of the expected average annual increase in solid waste generation [4,000 tons/year]). Source reduction, recycling, and composting can reduce a project's waste stream by as much as 50%. If a proposed project generates 196 or more tons per year after reduction and recycling efforts, impacts would be considered significant and unavoidable.

Proposed projects with a project specific impact as identified above (196 tons/year or more) would also be considered cumulatively significant, as the project specific threshold of significance is based on a cumulative growth scenario. However, as landfill space is already extremely limited, any increase in solid waste of 1% or more of the expected average annual increase in solid waste generation [4000 tons/year], which equates to 40 tons per year, is considered an adverse cumulative impact.

ANALYSIS: This amount of solid waste generated by the project is anticipated to result in a less than significant project specific impact and an adverse cumulative impact. The Specific Plan FEIR/EA indicated that the Economic Development Alternative for the Specific Plan would generate 1,474 tons of solid waste annually. As this figure exceeds the County threshold for significance as described above, impacts from the Economic Development Alternative were considered significant and unavoidable in the FEIR/EA.

A Solid Waste Management and Reduction Plan was prepared for the project (Exhibit 7). Using methodology and factors in the County's Environmental Thresholds and Guidelines Manual (1995), the plan concluded that the proposed project's estimated annual solid waste generation is 168.5 net new tons per year. This amount of solid waste is anticipated to result in a less than significant project specific impact and an adverse cumulative impact.

**This conclusion is consistent with the Solid Waste impact findings of the FEIR/EA for the Santa Barbara Municipal Airport Industrial/Commercial Specific Plan (Airport Specific Plan). The FEIR/EA determined that implementation of the Airport Specific Plan would result in a significant, unavoidable impact to Solid Waste. The project specific Solid Waste impact described above does not result in a new significant Solid Waste impact or a substantial increase in the severity of the identified Solid Waste impact described in the FEIR/EA for the Airport Specific Plan.

In order to reduce the proposed project's cumulative significant solid waste impact(s), mitigation measures from the Specific Plan FEIR/EA have been included in this Initial Study.

Mitigation Measure(s):

The following mitigation measures from the Airport Specific Plan FEIR/EA are applicable to this project, and numbered as they appear in the FEIR/EA:

3.8-1 During construction, the Airport shall contract with a disposal company that recycles construction and demolition debris.

3.8-2 During operations, the Airport shall develop and implement a solid waste management plan for individual tenants, to be reviewed and approved by the County Public Works Solid Waste Division. Because the Specific Plan involves different types of land uses, the precise nature of which has yet to be deter-mined, the management plan for each tenant will necessarily be different. The plan shall focus on ongoing waste diversion activities, however, and include the following elements: (a) source separated collection of recyclables, (b) tenant education, (c) reporting requirements and (d) landscaping that does not require excessive trimming due to plant and tree selection and design.

The following additional mitigation measures are required to reduce project-specific impacts from solid waste:

PS-1 The applicant shall comply with the recommendations of the Source Reduction/Recycling Plan, dated June 1998, submitted as part of the project application. This plan shall be approved by the Santa Barbara County Solid Waste Division, prior to the issuance of a grading or building permit for the project. (This measure is proposed as a project specific implementation of FEIR/EA Measure 3.8.2 noted above).

PS-2 The proposed project shall provide space and/or bins for storage of recyclable material with the project site. This information should/shall be shown on the building plans and installed as a part of the proposed project's improvements.

Residual Impact:

Implementation of measures PS-1 and PS-2 would reduce solid waste volumes, but would still exceed the significance threshold for solid waste impacts.

This conclusion is consistent with the Solid Waste impact findings of the FEIR/EA for the Santa Barbara Municipal Airport Industrial/Commercial Specific Plan (Airport Specific Plan). The FEIR/EA determined that implementation of the Airport Specific Plan would result in a significant, unavoidable impact to Solid Waste. The project specific Solid Waste impact described above does not result in a new significant Solid Waste impact or a substantial increase in the severity of the identified Solid Waste impact described in the FEIR/EA for the Airport Specific Plan.

10. RECREATION. Could the project:	NO	YES Level of Significance
a) Increase the demand for neighborhood or regional parks or other recreational facilities?		Less than Significant
b) Affect existing parks or other public recreational facilities?		Less than Significant

Discussion:

10a. The project is not anticipated to significantly increase demand for parks and recreation facilities. The Socio-economic Impact Analysis prepared for the project by Dudek and Associates (Exhibit G) estimates a population increase of 358 persons in the Santa Barbara area as a result of the project. This increase will create additional demand for park and recreation facilities. However, since it is unknown exactly where this population increase will reside, it is difficult to quantify specific impacts. It is likely, however, that this population will be spread out around the Santa Barbara area so that the impact is not fully experienced in one area. Because this impact is likely to be distributed to park and recreation facilities throughout the area, the impact is likely to be less than significant.

The Specific Plan FEIR/EA does not specifically discuss impacts to recreational facilities and services from buildout of the Specific Plan. The FEIR/EA makes reference to a market study prepared for the Specific Plan Area, which analyzed the demand for new commercial recreation facilities such as a family entertainment center and movie theater. The study identified a demand for additional movie theatre screens, but a marginal demand for such uses as a miniature golf course or batting cages. The Initial Study prepared for the Specific Plan noted that since the Plan did not involve residential uses, and that park and recreation facilities exist nearby, parks and recreation were not expected to be significant.

10b. The project is not anticipated to significantly impact public recreational facilities. The project will likely generate additional use of the existing Love Commons open space area adjacent to the project site through increased pedestrian traffic. This space, located across David Love Place from the project site, is part of the Southern California Edison leasehold with the City and is maintained by the Airport Department. The project will be providing its own internal open space areas for employee use, including volleyball and basketball courts. This recreation area will be approximately 30,000 sq. ft. in size. Employees at the project site are likely to use the on-site amenities, therefore the use of Love Commons is not anticipated to substantially increase. Therefore, while there is no adopted threshold for significance for impacts to recreational facilities, the project is not anticipated to have a substantial adverse impact on Love Commons.

11. TRANSPORTATION/CIRCULATION. Could the project result in:	NO	YES
		Level of Significance
a) Increased vehicle trips?		Significant, unavoidable*
b) Hazards to safety from design features (e.g. sharp curves, inadequate sight distance or dangerous intersections)?	✓	
c) Inadequate emergency access or access to nearby uses?	✓	
d) Insufficient parking capacity on-site or off-site?	✓	
e) Hazards or barriers for pedestrians or bicyclists?	✓	

Discussion:

11a. The proposed project is anticipated to generate additional trips within the Specific Plan area, contributing to an impact identified in the Specific Plan FEIR/EA as significant, unavoidable.

A Traffic and Parking study prepared for the project, prepared by Associated Transportation Engineers, dated February 23, 1998 (Exhibit 8) estimates that the project will generate 2,349 average daily vehicle trips and 287 p.m. peak hour trips. This study indicated that the proposed land uses within the project are consistent with those analyzed in the Airport Specific Plan FEIR/EA. The study also noted that the FEIR/EA analysis for sub-areas 2 and 3 of the Specific Plan, in which the proposed project is located, included allocations of 80,000 sq. ft. of research and development space, 110,000 sq. ft. of light industrial space, and 102,000 sq. ft. of retail space. The study concluded that the proposed project uses are, therefore, within the limits of those analyzed in the FEIR/EA.

The FEIR/EA concluded that long-term buildout of the Specific Plan Economic Development Alternative would have a significant impact the following intersections in the area during the p.m. peak hour:

- Los Carneros Rd./U.S. 101 s/b ramps
- Los Carneros Rd./Hollister Ave.
- Fairview Ave./U.S. 101 n/b ramps
- Fairview Ave./Hollister Ave.
- SR 217 s/b ramps/Hollister Ave.
- SR 217 n/b ramps/Hollister Ave./Ward Drive

The FEIR/EA included a number of roadway improvements as mitigation measures which were incorporated into the specific plan. The FEIR/EA concluded that with the mitigation measures, all impacts will be reduced to a level of insignificance, except for the impact to the intersection of Hollister and Fairview Avenues. The impact to this intersection was identified as significant and unavoidable. The mitigation measures from the FEIR/EA applicable to this project have been included in this Initial Study. The mitigation measures relative to traffic improvements are currently being implemented by the City Airport Department. The applicant's participation in these improvements is limited to financial participation in the traffic mitigation fee program currently being negotiated between the City and the County, as noted in FEIR/EA mitigation measure 3.20-2.

The Specific Plan addresses a traffic signal at the intersection of Hollister Avenue and Fredrick Lopez Road as follows: "It is currently envisioned that a signal is necessary to improve this intersection; However, the details of this intersection improvement requires further study by a traffic engineer." A Traffic Signal Warrant Study, dated October 21, 1998, was prepared by Associated Transportation Engineers, and indicated that signals would be required at the Hollister Avenue/Frederick Lopez Road/Augustus Griggs Place intersection in order to accommodate traffic generated by the Santa Barbara Gateway Center project. The Public Works Transportation Division concurs with these findings and is requiring the applicant to install a traffic signal at this intersection. This requirement is therefore included as a project specific mitigation measure to reduce impacts from increased vehicle trips from the project site.

Mitigation Measure 3.20-1 from the Specific Plan FEIR/EA (outlined below) provides for the voluntary participation by Airport tenants in a Transportation Demand Management (TDM) program.

The project design incorporated TDM measures such as bicycle and vanpool parking, and a sheltered transit stop.

The project would also generate construction-related traffic, which would occur over the projected 18-month construction period and would vary. Implementation of mitigation measures regarding routing and parking would reduce these potential impacts. However, since the Specific Plan FEIR/EA has identified impacts from increased vehicle trips as significant and unavoidable, construction trips would contribute to this impact.

*These conclusions are consistent with the Ground Transportation impact findings of the FEIR/EA for the Santa Barbara Municipal Airport Industrial/Commercial Specific Plan (Airport Specific Plan). The FEIR/EA determined that implementation of the Airport Specific Plan would result in a significant, unavoidable impact to Ground Transportation. The project specific Ground Transportation impact described above does not result in a new significant Ground Transportation impact or a substantial increase in the severity of the identified Ground Transportation impact described in the FEIR/EA for the Airport Specific Plan.

11b. The project will be required to meet Public Works design standards regarding driveways, curbs and sidewalks, including the installation of a landscaped parkway between the sidewalk and the roadway perimeter of the project site. No hazards to vehicular or pedestrian traffic are expected to occur as a result of the project design features.

11c. Access to the project site is provided from multiple driveway locations. The project site is bounded by four public streets, including Hollister Avenue, a major arterial thoroughfare in the Airport area. No impacts to emergency access are anticipated.

11d. A total of 528 parking spaces are required by code for the project as follows:

160,000 sq. ft. office/industrial (1 space/250 sq. ft.)	640 spaces
20,000 sq. ft. retail (1 space/250 sq. ft.)	80 spaces
Less 30 percent reduction allowed for non-retail development over 50,000 sq. ft.	-192 spaces
TOTAL REQUIRED	528 spaces

Because the project contains a mix of retail and office/industrial uses, staff has recommended the applicant reduce the amount of required parking to allowed for shared parking on the site. A total of 465 spaces are therefore proposed, based on recommendations outlined in the parking demand study prepared for the project. Space for an additional 55 future parking spaces has been included on the site plan, to be developed if needed in the future. On-street parking is also available. The Public Works Department Transportation Planning Staff is working with the applicant to allow for a greater amount of shared parking, which would further reduce the parking provided. Therefore, with an allowance for shared parking, the project will therefore have sufficient parking capacity.

11e. The project has been designed with a network of pedestrian walkways in and around the project site. Bicycle access is provided along the four streets surrounding the project site. No hazards or barriers to pedestrians or bicyclists are anticipated.

Mitigation Measure(s):

The following mitigation measures from the Airport Specific Plan FEIR/EA are applicable to this project, and numbered as they appear in the FEIR/EA:

3.20-1 Individual developments within the planning area shall be reviewed upon permit application to tailor a TDM plan for the development. Measures targeting employees shall include provision of bicycle lockers and showers in the new developments, lunchrooms, preferential parking for carpools, free bus passes, etc. TDM plans would be developed by each development pursuant to the existing City/County TDM program. This program is voluntary and future tenants within the Specific Plan area would have the choice to participate or not participate.

3.20-7 The measures listed below are required to reduce short-term traffic during construction of major developments within the Specific Plan Area:

- A construction conference shall be scheduled prior to the beginning of construction to discuss measures to reduce potential construction related impacts. Representatives from the City's Public Works Department, Building Division, Planning Division, Airport and Contractor shall be present. A representative from the County Public Works Department should also be present.

- Construction traffic shall be routed to minimize trips through the Fairview Avenue/Hollister Avenue intersection during morning and evening peak hours (7:00 to 9:00 A.M. and 4:00 to 6:00 P.M.) to minimize impacts during commute periods.

- Construction truck trips shall not be scheduled during morning and evening peak hours (7:00 to 9:00 A.M. and 4:00 to 6:00 P.M.) to minimize impacts during commute periods.

- On-site storage shall be provided for construction materials and equipment in a location subject to City approval.

- Parking spaces for construction workers shall be provided in a location subject to City approval.

The following additional mitigation measure will further reduce project-specific traffic impacts:

TR-1 The applicant shall install, or participate in the installation of a traffic signal at the intersection of Hollister Avenue and Frederic Lopez Road, as required by the City Transportation Division and Airport Department.

Residual Impact: Implementation of the proposed mitigation measures would reduce traffic volumes, but would still exceed the significance threshold for the intersection of Hollister and Fairview Avenues.

12. WATER ENVIRONMENT. Could the project result in:	NO	YES Level of Significance
a) Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff?		Less than Significant
b) Exposure of people or property to water related hazards such as flooding?		Less than Significant
c) Discharge into surface waters?		Significant, avoidable
d) Change in the quantity, quality, direction or rate of flow of ground waters?		Less than Significant
e) Increased storm water drainage?		Less than Significant

Discussion:

12a,e. The project is not anticipated to significantly impact absorption rates, drainage patterns, or the rate and amount of surface runoff. The project site has been designed with a detention basin in the landscaped area along the Hollister Avenue project frontage. All drainage from the project site is directed to this location. The drainage study prepared for the project by Penfield and Smith in September 1998 (Exhibit 9) indicates that the detention basin has been designed to detain the peak runoff increase from a 25-year or greater storm event. The design of the basin is such that no increase in drainage runoff will occur from the project site beyond existing levels, and will, therefore, not adversely impact the existing drainage conditions downstream. Drainage from the Airport area is directed into the surrounding creeks, which ultimately drain into the Goleta Slough.

12b. Impacts from the project related to water hazards such as flooding are anticipated to be less than significant. The FEIR/EA notes that the water table in the Airport area is at a shallow depth, thereby limiting the amount of soil infiltration and increasing the amount of runoff, and increasing the likelihood of flooding conditions. The Specific Plan FEIR/EA includes a mitigation measure (3.11-1) requiring that a detailed map of flood conditions be prepared for the Specific plan area. The project site currently contains mostly impervious, paved surfaces. The proposed project includes additional open space and landscape areas that would increase the ability for storm runoff to infiltrate the soil. The project site is located within portions of the 100-year and 500-year flood plains, as indicated on the 1991 Flood Insurance Rate Map. As noted in item 12a above, site drainage will be directed into the proposed detention basin, which is designed to detain sufficient runoff based on a 25-year or greater flood event.

12c. As noted in item 12a above, the proposed retention basin has been designed so that no increase in runoff beyond existing levels is expected to occur as a result of the project. Current drainage patterns direct Airport Area runoff to the Goleta Slough to the south of the project site. With no increase in runoff anticipated from the project, no significant impacts to surface waters such as the Goleta Slough are expected from increased runoff. As discussed in the Biological Resources section of this Initial Study, the Specific Plan FEIR/EA includes Mitigation Measures 3.12-1 and 3.16-1 to mitigate water quality impacts from project site runoff to the Goleta Slough to a less than significant level.

Industrial interceptors are recommended to be installed, as necessary, in order to prevent liquid wastes resulting from parking and cleaning areas from contaminating the public or private storm drainage systems, which ultimately drain into the Goleta Slough and the Pacific Ocean. This would be a benefit to the water environment in the project area.

12d. Impacts to groundwater resources are anticipated to be less than significant. The Geologic and Geotechnical Report prepared for the project by Fugro West, Inc., dated April 1998 (Exhibit 4), recommended construction measures to decrease the potential for project impacts due to liquefaction. These measures included de-watering the project site to a level below the bottom of the excavation level. This measure could adversely affect the groundwater conditions in the area by decreasing the level of the groundwater table at the project site. However, given the extent of the depth and size of the groundwater table in the Airport area, and the localized impact on the project site, the impact to groundwater resources is not anticipated to be significant.

Mitigation Measures:

The following mitigation measures from the Airport Specific Plan FEIR/EA are applicable to this project, and numbered as they appear in the FEIR/EA:

Mitigation Measures 3.12-1 and 3.16-1 (see Biological Resources section above).

3.11-1 A detailed map shall be prepared showing the building layouts and anticipated floor elevations for any proposed development within the Specific Plan Area in addition to pertinent flood safety information from the Flood Insurance Rate Maps. This would include the Regulatory Floodway Boundary and 100-year flood elevations. This would allow administrators to more easily establish finish floor elevations and understand when special building practices or procedures are required. Of particular concern are land uses adjacent to San Pedro Creek and Carneros Creek. In the Regulatory Floodway where reduction in carrying capacity (i.e., conveyance) is prohibited, special building practices or design procedures may be required to reduce flood exposure in these locations. These building practices in the Regulatory Floodway include the following:

- Providing flood conveyance equal to that which currently exists.
- Locating parking lots and other open space land uses, which are more compatible with higher flood hazard, within the Regulatory Floodway.
- Raising the finish floor elevations of new buildings by use of pile foundation, allowing storm water to flow underneath the building.
- If equal conveyance cannot be shown, where feasible and necessary, processing a Letter of Map Revision to realign the Regulatory Floodway will be required.

The following additional mitigation measure is recommended to further reduce project-specific impacts on water quality:

WTR-1 Industrial interceptors shall be installed, as necessary, for the proper handling of liquid wastes containing grease, flammable wastes, sand, acid or alkaline substances in order to protect liquid wastes resulting from parking and cleaning areas from contaminating the public or private storm drainage systems. These devices shall be maintained per manufacturers specifications.

Residual Impact: Implementation of proposed Mitigation Measures 3.11-1 and WTR-1 will further reduce an already less than significant impact on the water environment, and implementation of Mitigation Measures 3.12.1 and 3.16-1 will reduce potential impacts to a less than significant level.

MANDATORY FINDINGS OF SIGNIFICANCE.		YES	NO
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 wildfire population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		✓
b)	Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?		✓
c)	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)?	✓	
d)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		✓

INITIAL STUDY CONCLUSION

On the basis of this initial evaluation it has been determined that:

The proposed project MAY have a significant effect on the environment with respect to air quality, and further study of this issue in a FOCUSED SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT is required.

The Santa Barbara Municipal Airport Industrial/Commercial Specific Plan Final Environmental Impact Report/Assessment (FEIR/EA), certified by the City of Santa Barbara in 1997, has adequately analyzed the effects of the proposed project, with the exception of air quality impacts. This FEIR/EA is available for public review at the City of Santa Barbara Community Development Department, 630 Garden Street, Santa Barbara, CA 93102-1990.

The following issues from this Initial Study checklist were adequately analyzed in the Airport Specific Plan FEIR/EA on a cumulative basis: Biological Resources, Cultural Resources, Hazards, Noise, Public Services, Schools, Solid Waste, Population and Housing, and Transportation/Circulation. The following impacts were considered "potentially significant" or "potentially significant unless mitigated," in the FEIR/EA, and the mitigation measures (see MMRP, Exhibit 3) were incorporated to reduce these impacts to the levels specified:

Biological Resources: Measures 3.12-1and 3.16-1, long term impacts remain less than significant
Hazards: Measure 3.10-1, 3.10-2, 3.12-1 and 3.16-1, impacts remain significant, avoidable
Noise: Impacts remain less than significant
Cultural Resources: Measure 3.13-1, impacts mitigated to less than significant
Schools: impacts remain significant, unavoidable
Solid Waste: Measure 3.8-1, 3.8-2, impacts remain significant, unavoidable
Water Resources: Measures 3.11-1, 3.12-1 and 3.16-1, impacts mitigated to less than significant
Transportation: Measures 3.20-1 and 3.20-7, impacts remain significant, unavoidable

Case Planner/Initial Study Preparer: Bill Jacobs

Environmental Analyst: Delva Alandalaros

Date: 1/8/99

Exhibits

1. Site Plan

2. Vicinity Map

3. MMRP

4. Geological and Geotechnical Engineering Report (w/o appendices), Santa Barbara Gateway Center, prepared by Fugro West, Inc., April 1998

5. Noise Analysis, prepared by Dudek and Associates, October 13, 1998

6. Socioeconomic Impact Analysis for Santa Barbara Gateway Center Project, prepared by Dudek and Associates, October, 1998

7. Santa Barbara Gateway Center Project, Solid Waste Management and Reduction Plan, prepared by Dudek and Associates, June 1998

8. Traffic and Parking Study, prepared by Associated Transportation Engineers, February 23, 1998

9. Preliminary Drainage Report (w/o exhibits), prepared by Penfield and Smith, September 1, 1998

LIST OF SOURCES USED IN PREPARATION OF THIS INITIAL STUDY

The following sources used in the preparation of this Initial Study are located at the Community Development Department, Planning Division, 630 Garden Street, Santa Barbara and are available for review upon request.

California Environmental Quality Act (CEQA) & CEQA Guidelines

General Plan Circulation Element

General Plan Conservation Element

1995 Housing Element

General Plan Land Use Element

General Plan Noise Element w/appendices

General Plan Map

General Plan Seismic Safety/Safety Element

Geology Assessment for the City of Santa Barbara

Institute of Traffic Engineers Parking Generation Manual

Institute of Traffic Engineers Trip Generation Manual

Master Environmental Assessment

Parking Design Standards

Santa Barbara Municipal Code & City Charter

Special District Map

Uniform Building Code as adopted by City

Zoning Ordinance & Zoning Map

Airport Industrial Area Specific Plan, 1997

Final Environmental Impact Report/Assessment for Santa Barbara Municipal Airport Industrial/Commercial Specific Plan

Middle Holocene Adaptataions at CA-SBA-59- A Prehistoric Residential Site on the Goleta Slough- Extended Phase I Survey and Phase II Significance Assessment (Draft), prepared by Science Applications International Corporation, April 1998. (not available for public review)

Extended Phase 1 and 2 Letter Report for Santa Barbara Gateway Center, prepared by Science Applications International Corporation, October 13, 1998 (not available for public review)

Geological and Geotechnical Engineering Report, Santa Barbara Gateway Center, prepared by Fugro West, Inc., April 1998

Noise Analysis, prepared by Dudek and Associates, October 13, 1998

Socioeconomic Impact Analysis for Santa Barbara Gateway Center Project, prepared by Dudek and Associates, October, 1998

Santa Barbara Gateway Center, Solid Waste Management and Reduction Plan, prepared by Dudek and Associates, June 1998

Traffic and Parking Study, prepared by Associated Transportation Engineers, February 23, 1998

Preliminary Drainage Report, prepared by Penfield and Smith, September 1, 1998

Airport Architectural and Urban Design Guidelines, August 1998

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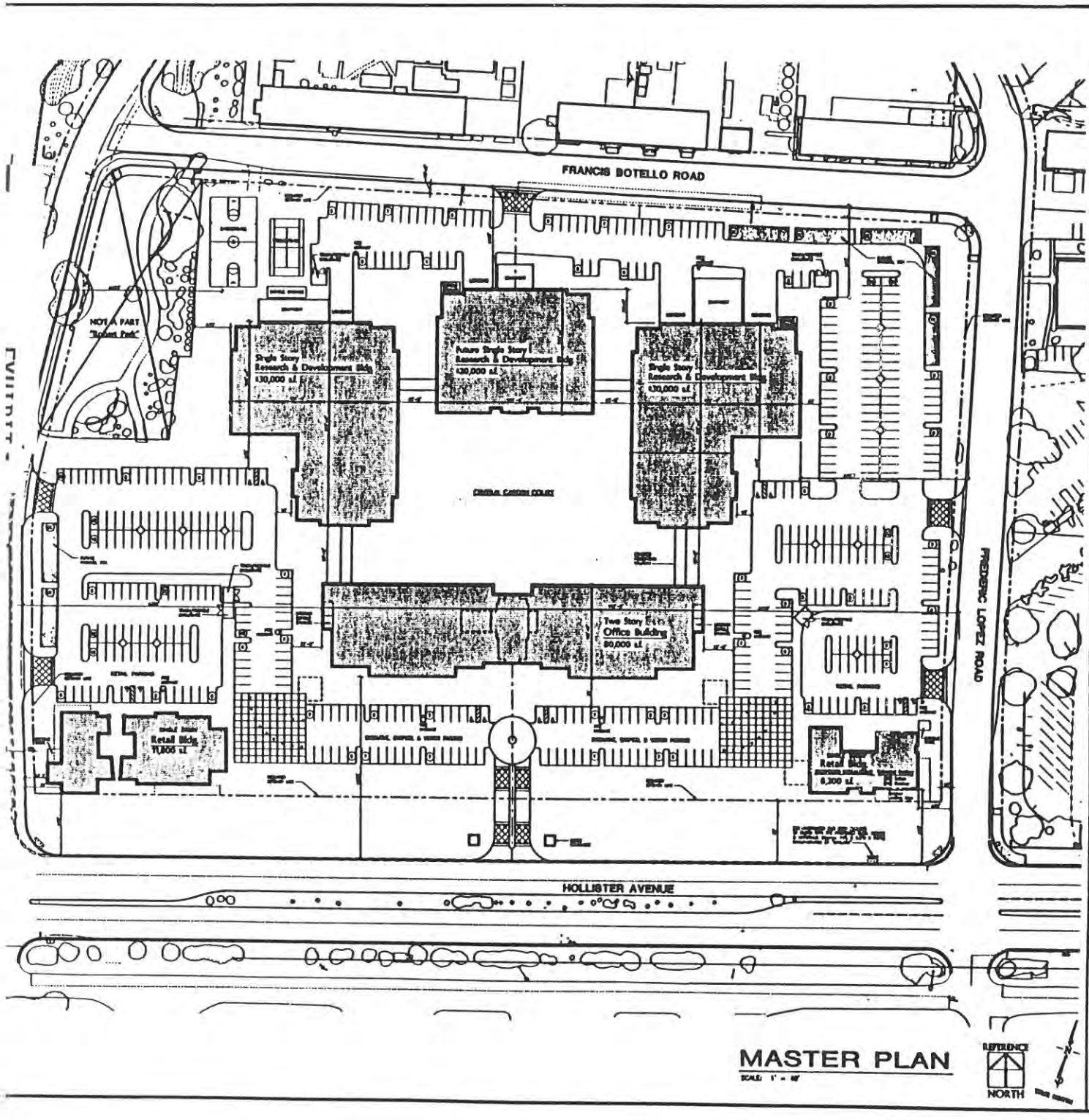
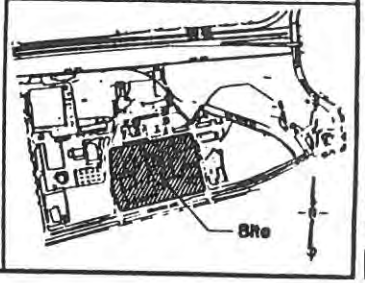


MASTER PLAN

SCALE: 1" = 40'

PROJECT DATA

VICINITY MAP



P K

A Redevelopment Project

Santa Barbara Gateway Center

City of Santa Barbara

A Proposal of BERMANT DEVELOPMENT

MASTER PLAN

SCHEME 2

96-075.00

1" = 40'

PD-1A

April 1998
Project No. 98-92-7021

FUGRO

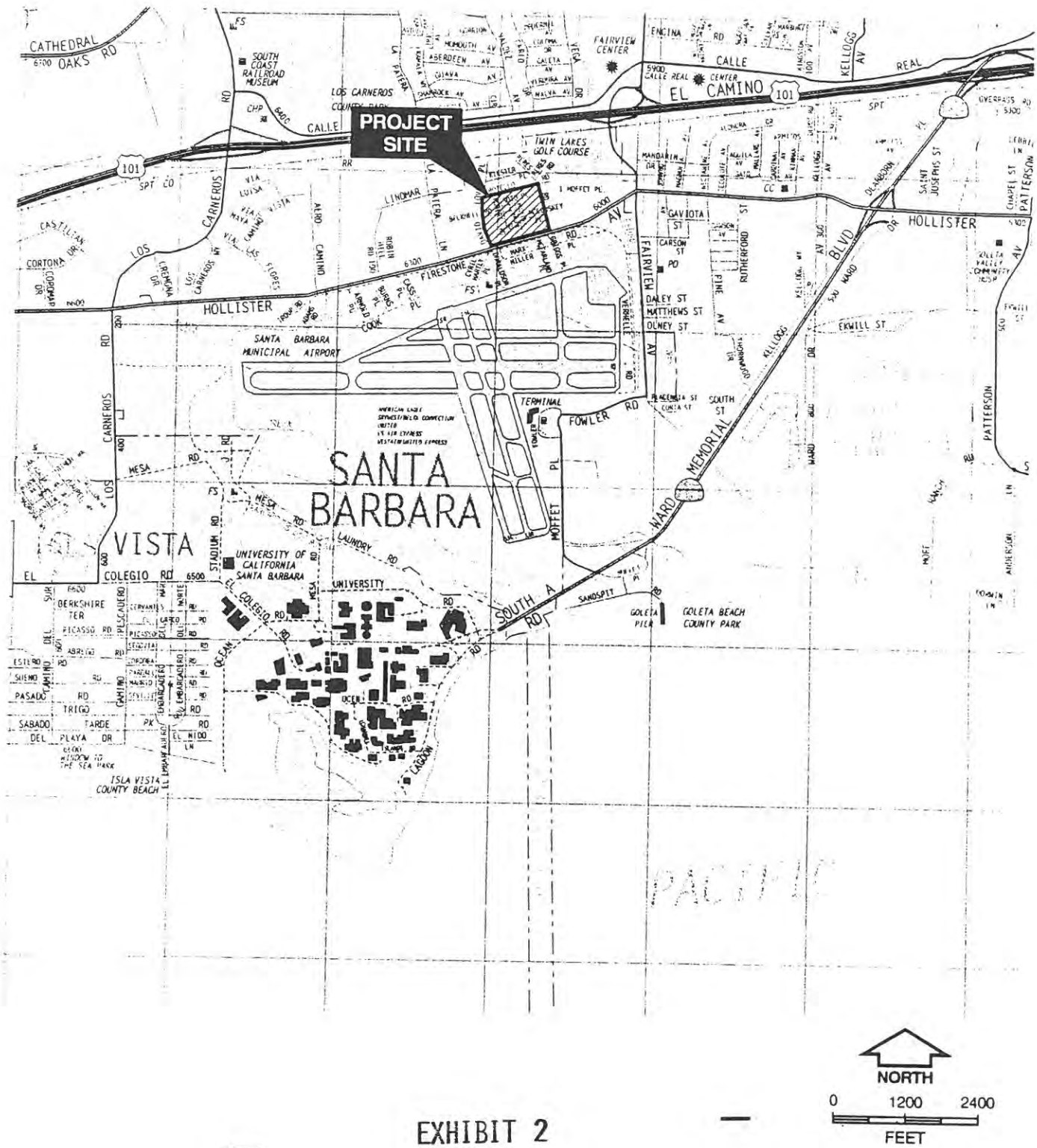


EXHIBIT 2

VICINITY MAP
Santa Barbara Gateway Center

PLATE 1

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AIRPORT GATEWAY CENTER- 6100 HOLLISTER AVE.
MITIGATION MONITORING AND REPORTING PROGRAM

PURPOSE

The purpose of the Airport Gateway Center Project Mitigation Monitoring and Reporting Program (MMRP) is to ensure compliance with all mitigation measures identified in the Initial Study to mitigate or avoid potentially significant adverse environmental impacts resulting from the proposed project. The implementation of this MMRP shall be accomplished by City staff, project developer's consultants and representatives, and property owner. The program shall apply to the following phases of the project:

- Plan and specification preparation
- Pre-construction conference
- Construction of the site improvements
- Post Construction

I. RESPONSIBILITIES AND DUTIES

A qualified representative of the developer, approved by the City Planning Division and paid for by the developer, shall be designated as the Project Environmental Coordinator (PEC). The PEC shall be responsible for assuring full compliance with the provisions of this mitigation monitoring and reporting program to the City. The PEC shall have authority over all other monitors/specialists, the contractor, and all construction personnel for those actions that relate to the items listed in this program.

It is the responsibility of the contractor to comply with all mitigation measures listed in the attached MMRP matrix. Any problems or concerns between monitors and construction personnel shall be addressed by the PEC and the contractor. The contractor shall prepare a construction schedule subject to the review and approval of the PEC. The contractor shall inform the PEC of any major revisions to the construction schedule at least 48 hours in advance. The PEC and contractor shall meet on a weekly basis in order to assess compliance and review future construction activities.

A. PRE-CONSTRUCTION BRIEFING

The PEC shall prepare a pre-construction project briefing report. The report shall include a list of all mitigation measures and a plot plan delineating all sensitive areas to be avoided. This report shall be provided to all construction personnel.

The pre-construction briefing shall be conducted by the PEC. The briefing shall be attended by the PEC, construction manager, necessary consultants, Planning Division Case Planner, Public Works representative and all contractors and subcontractors associated with the project. Multiple pre-construction briefings shall be conducted as the work progresses and a change in contractor occurs.

The MMRP shall be presented to those in attendance. The briefing presentation shall include project background, the purpose of the MMRP, duties and responsibilities of each participant, communication procedures, monitoring criteria, compliance criteria, filling out of reports, and duties and responsibilities of the PEC and project consultants.

It shall be emphasized at this briefing that the PEC and project consultants have the authority to stop construction and redirect construction equipment in order to comply with all mitigation measures.

Once construction commences, field meetings between the PEC and project consultants, and contractors shall be held on an as-needed basis in order to create feasible mitigation measures for unanticipated impacts, assess potential effects, and resolve conflicts.

II. IMPLEMENTATION PROCEDURES

There are three types of activities which will require monitoring. The first type pertains to the review of the Conditions of Approval and Construction Plans and Specifications. The second type relates to construction activities and the third to ongoing monitoring activities during operation of the project.

A. MONITORING PROCEDURES

The PEC and required consultant(s) shall monitor all field activities. The authority and responsibilities of the PEC and consultant(s) are described in the previous section.

B. REPORTING PROCEDURES

The following three (3) types of reports shall be prepared:

1. Schedule

   The PEC and contractor shall prepare a monthly construction schedule to be submitted to the City prior to or at the pre-construction briefing.

2. General Progress Reports

   The PEC shall be responsible for preparing written progress reports submitted to the City. These reports would be expected on a weekly basis during grading, excavation and construction, activities. The reports would document field activities and compliance with project mitigation measures, such as dust control and sound reduction

construction.

3. Final Report

A final report shall be submitted to the Planning Division when all monitoring (other than long term operational) has been completed and shall include the following:

a. A brief summary of all monitoring activities.

b. The date(s) the monitoring occurred.

c. An identification of any violations and the manner in which they were dealt with.

d. Any technical reports required, such as noise measurements.

e. A list of all project mitigation monitors.

C. MMRP MATRIX

The following MMRP Matrix describes each initial study mitigation measure, monitoring activities and the responsibilities of the various parties, along with the timing and frequency of monitoring and reporting activities. For complete language of each condition, the matrix should be used in conjunction with the mitigation measures described in full in the Initial Study.

The MMRP Matrix is intended to be used by all parties involved in monitoring the project mitigation measures, as well as project contractors and others working in the field. The Matrix should be used as a compliance checklist to aid in compliance verification and monitoring requirements. A copy of the MMRP matrix shall be kept in the project file as verification that compliance with all mitigation measures has occurred.

AIRPORT GATEWAY CENTER- 6100 HOLLISTER AVE.
MITIGATION MONITORING AND REPORTING PROGRAM MATRIX

MITIGATION MEASURE	MONITORING REQUIREMENT	RESPONSIBLE ENTITY	MONITOR	ACTION BY MONITOR	TIMING/ FREQUENCY	COMPLIANCE CHECK	VERIF-ICATION
3.9-1	Apply water at least twice daily to dirt roads, graded areas and dirt stockpiles to prevent excessive dust from leaving the staging areas.	Contractor	PEC	Ensure requirements shown on building plans and carried out on site.	At building plan check and throughout construction period.	City Building and Safety Division.	
3.9-2	Minimize vehicle speeds.	Contractor	PEC	Ensure requirements shown on building plans and carried out on site.	At building plan check and throughout construction period.	City Building and Safety Division.	
3.9-3	Disturb the smallest practical amount of area and minimize disturbance time.	Contractor	PEC	Ensure requirements shown on building plans and carried out on site.	At building plan check and throughout construction period.	City Building and Safety Division.	
3.9-4	After completion of construction activities, treat disturbed soil within the staging area by watering, re-vegetating or spreading soil binders to prevent wind erosion of the soil.	Contractor	PEC	Ensure requirements shown on building plans and carried out on site.	At building plan check and throughout construction period.	City Building and Safety Division.	

AIRPORT GATEWAY CENTER- 6100 HOLLISTER AVE.
MITIGATION MONITORING AND REPORTING PROGRAM MATRIX

MITIGATION MEASURE	MONITORING REQUIREMENT	RESPONSIBLE ENTITY	MONITOR	ACTION BY MONITOR	TIMING/ FREQUENCY	COMPLIANCE CHECK	VERIF-ICATION
3.9-5	Soil stockpiled for more than two days shall be covered, kept moist or treated with soil binders.	Contractor	PEC	Ensure requirements shown on building plans and carried out on site.	At building plan check and throughout construction period.	City Building and Safety Division.	
3.9-6	During building demolition, water application or shrouding shall be used, as necessary, to ensure that dust emissions from this activity do not create a nuisance.	Contractor	PEC	Ensure requirements shown on building plans and carried out on site.	At building plan check and throughout construction period.	City Building and Safety Division.	
3.9-7	The contractor shall designate personnel to monitor construction activities and ensure that excessive dust would not occur from construction sites.	Contractor	PEC	Ensure requirements shown on building plans and carried out on site.	At building plan check and throughout construction period.	City Building and Safety Division.	

AIRPORT GATEWAY CENTER- 6100 HOLLISTER AVE.
MITIGATION MONITORING AND REPORTING PROGRAM MATRIX

MITIGATION MEASURE	MONITORING REQUIREMENT	RESPONSIBLE ENTITY	MONITOR	ACTION BY MONITOR	TIMING/ FREQUENCY	COMPLIANCE CHECK	VERIF-ICATION
3.9-8	New habitable buildings or additions of 5,000 square feet or more shall be reviewed by an energy specialist and recommendations made to reduce energy usage.	Applicant, PEC, Contractor	PEC	Ensure requirements shown on building plans and carried out on site.	At building plan check and throughout construction period.	City Planning and Building Divisions	
3.9-9	Encourage the use of alternative transporta-tion modes by employees of businesses and other facilities within the Specific Plan area. If and when a Goleta Valley alternative transportation program is developed provisions shall be incorporated into leases that would require that the prog-ram apply to all new businesses in the Speci-fic Plan area.	City Airport Department, Applicant, PEC	PEC	Ensure requirements shown on building plans and carried out on site.	At building plan check and throughout construction period.	City Airport Department and Planning and Transportation Divisions.	

AIRPORT GATEWAY CENTER- 6100 HOLLISTER AVE.
MITIGATION MONITORING AND REPORTING PROGRAM MATRIX

MITIGATION MEASURE	MONITORING REQUIREMENT	RESPONSIBLE ENTITY	MONITOR	ACTION BY MONITOR	TIMING/ FREQUENCY	COMPLIANCE CHECK	VERIF-ICATION
AQ-1	The applicant shall prepare an Odor and Smoke Abatement Plan, to be approved by both the City and the County Air Pollution Control District (APCD) prior to the issuance of a building permit for any restaurant use.	Applicant	PEC	Ensure that abatement plan mitigates odor and smoke impacts	At building plan check and ongoing monitoring	City Planning Division and APCD	
BIO-1	Landscaping in retention areas should be provided using wetland materials, and overall landscaping should utilize native materials, as approved by the Architectural Board of Review prior to the issuance of a building permit for the project.	Architect, Contractor	PEC	Ensure requirements shown on building plans and carried out on site.	At building plan check and throughout construction period.	City Planning Division	

AIRPORT GATEWAY CENTER- 6100 HOLLISTER AVE.
MITIGATION MONITORING AND REPORTING PROGRAM MATRIX

MITIGATION MEASURE	MONITORING REQUIREMENT	RESPONSIBLE ENTITY	MONITOR	ACTION BY MONITOR	TIMING/ FREQUENCY	COMPLIANCE CHECK	VERIF-ICATION
CR-1	The applicant shall develop a Phase 3 data recovery, index sampling, and monitoring program, A contract to carry out the Phase 3 program shall be approved by the City Environmental Analyst prior to issuance of permits for any ground disturbing activity. A final report on the results of the Phase 3 program shall be submitted to the City Environmental Analyst within 180 days of completion of the program, or prior to the issuance of the first Certificate of Occupancy for the project, whichever is earlier.	Applicant, PEC Contractor	PEC	Ensure that recommendations from Phase 3 plan are followed on-site.	At building plan check and throughout construction period.	City Building and Planning Divisions.	

AIRPORT GATEWAY CENTER- 6100 HOLLISTER AVE.
MITIGATION MONITORING AND REPORTING PROGRAM MATRIX

MITIGATION MEASURE	MONITORING REQUIREMENT	RESPONSIBLE ENTITY	MONITOR	ACTION BY MONITOR	TIMING/ FREQUENCY	COMPLIANCE CHECK	VERIF-ICATION
3.10-1	A Construction Contingency Plan shall be developed addressing methods to control potential migration of contamination discovered during construction as well as safety considerations for on-site personnel and the general public.	Applicant, PEC Contractor	PEC	Ensure requirements shown on building plans and carried out on site.	At building plan check and throughout construction period.	City Airport and Fire Departments.	
3.10-2	Following initial actions specified in the Construction Contingency Plan, a project-specific remediation plan would need to be developed and implemented to reduce contaminant concentrations to acceptable levels.	Applicant, PEC Contractor	PEC	Ensure requirements shown on building plans and carried out on site.	At building plan check and throughout construction period.	City Airport and Fire Departments.	

AIRPORT GATEWAY CENTER- 6100 HOLLISTER AVE.
MITIGATION MONITORING AND REPORTING PROGRAM MATRIX

MITIGATION MEASURE	MONITORING REQUIREMENT	RESPONSIBLE ENTITY	MONITOR	ACTION BY MONITOR	TIMING/ FREQUENCY	COMPLIANCE CHECK	VERIF-ICATION
Recommneded Noise-1	Noise generating construction activity shall be prohibited Saturdays, Sundays, and holidays and between the hours of 5 p.m. to 8 a.m. Holidays are defined as those days which are observed by the City of Santa Barbara as official holidays by City employees.	Contractor	PEC	Ensure requirements shown on building plans and carried out on site.	At building plan check and throughout construction period.	City Building and Safety Division.	
Recommended Noise-2	All construction equipment, including trucks, should be professionally maintained and fitted with standard manufacturers' muffler and silencing devices.	Contractor	PEC	Ensure requirements shown on building plans and carried out on site.	At building plan check and throughout construction period.	City Building and Safety Division.	
3.8-1	During construction, the Airport shall contract with a disposal company that recycles construction and demolition debris.	Contractor	PEC	Ensure requirements shown on building plans and carried out on site.	At building plan check and throughout construction period.	City Building and Safety Division.	

AIRPORT GATEWAY CENTER- 6100 HOLLISTER AVE.
MITIGATION MONITORING AND REPORTING PROGRAM MATRIX

MITIGATION MEASURE	MONITORING REQUIREMENT	RESPONSIBLE ENTITY	MONITOR	ACTION BY MONITOR	TIMING/ FREQUENCY	COMPLIANCE CHECK	VERIF-ICATION
PS-1	The applicant shall comply with the recommendations of the Source Reduction/Recycling Plan, dated June 1998.	Architect, Applicant, Contractor	PEC	Ensure requirements shown on building plans and carried out on site.	At building plan check and throughout construction period.	City Planning Division.	
PS-2	The proposed project shall provide space and/or bins for storage of recyclable material with the project site.	Architect, Applicant, Contractor	PEC	Ensure requirements shown on building plans and carried out on site.	At building plan check and throughout construction period.	City Planning Division.	
3.20-1	Individual developments within the planning area shall be reviewed upon permit application to tailor a TDM plan for the development.	Architect, Applicant	PEC	Ensure requirements shown on building plans and carried out on site.	At building plan check and throughout construction period.	City Planning Division.	

AIRPORT GATEWAY CENTER- 6100 HOLLISTER AVE.
MITIGATION MONITORING AND REPORTING PROGRAM MATRIX

MITIGATION MEASURE	MONITORING REQUIREMENT	RESPONSIBLE ENTITY	MONITOR	ACTION BY MONITOR	TIMING/ FREQUENCY	COMPLIANCE CHECK	VERIF-ICATION
3.20-7	The measures listed below are required to reduce short-term traffic during construction of major developments within the Specific Plan Area: • A construction conference shall be scheduled prior to the beginning of construction to discuss measures to reduce potential construction related impacts. • Construction traffic shall be routed to minimize trips through the Fairview Avenue/Hollister Avenue intersection during morning and evening peak hours	Contractor	PEC	Ensure requirements shown on building plans and carried out on site.	At building plan check and throughout construction period.	City Building and Safety Division.	

AIRPORT GATEWAY CENTER- 6100 HOLLISTER AVE.
MITIGATION MONITORING AND REPORTING PROGRAM MATRIX

MITIGATION MEASURE	MONITORING REQUIREMENT	RESPONSIBLE ENTITY	MONITOR	ACTION BY MONITOR	TIMING/ FREQUENCY	COMPLIANCE CHECK	VERIF-ICATION
3.20-7 (cont'd)	• Construction truck trips shall not be scheduled during morning and evening peak hours • On-site storage shall be provided for construction materials and equipment in a location subject to City approval. • Parking spaces for construction workers shall be provided in a location subject to City approval.						
TR-1	The applicant shall install, or participate in the installation of a traffic signal at the intersection of Hollister Avenue and Frederic Lopez Road, as required by the City Transportation Division and Airport Department.	Applicant, Contractor	PEC	Ensure requirements shown on building plans and carried out on site.	At building plan check and throughout construction period.	City Airport And Public Works Departments.	

AIRPORT GATEWAY CENTER- 6100 HOLLISTER AVE.
MITIGATION MONITORING AND REPORTING PROGRAM MATRIX

MITIGATION MEASURE	MONITORING REQUIREMENT	RESPONSIBLE ENTITY	MONITOR	ACTION BY MONITOR	TIMING/ FREQUENCY	COMPLIANCE CHECK	VERIF-ICATION
3.12-1	A Drainage and Erosion Control Plan is required for each project requiring grading, as a standard operating procedure prior to project approval.	Contractor	PEC	Ensure requirements shown on building plans and carried out on site.	At building plan check and throughout construction period.	City Building and Safety Division.	
3.16-1	The Airport shall continue to participate in and support the goals of the Goleta Slough Management Committee (GSMC) and shall support the development and implementation of the Goleta Slough Ecosystem Management Plan. Any projects in the Specific Plan area that result in drainage to the Slough or its tributary creeks shall be referred to the GSMC for review and comments.	Applicant	PEC	Ensure requirements shown on building plans and carried out on site.	At building plan check and throughout construction period.	City Building and Safety Division.	

FUGRO WEST, INC.

GEOLOGICAL AND GEOTECHNICAL ENGINEERING REPORT SANTA BARBARA GATEWAY CENTER SANTA BARBARA, CALIFORNIA

Prepared for:
BERMANT DEVELOPMENT COMPANY

APRIL 1998

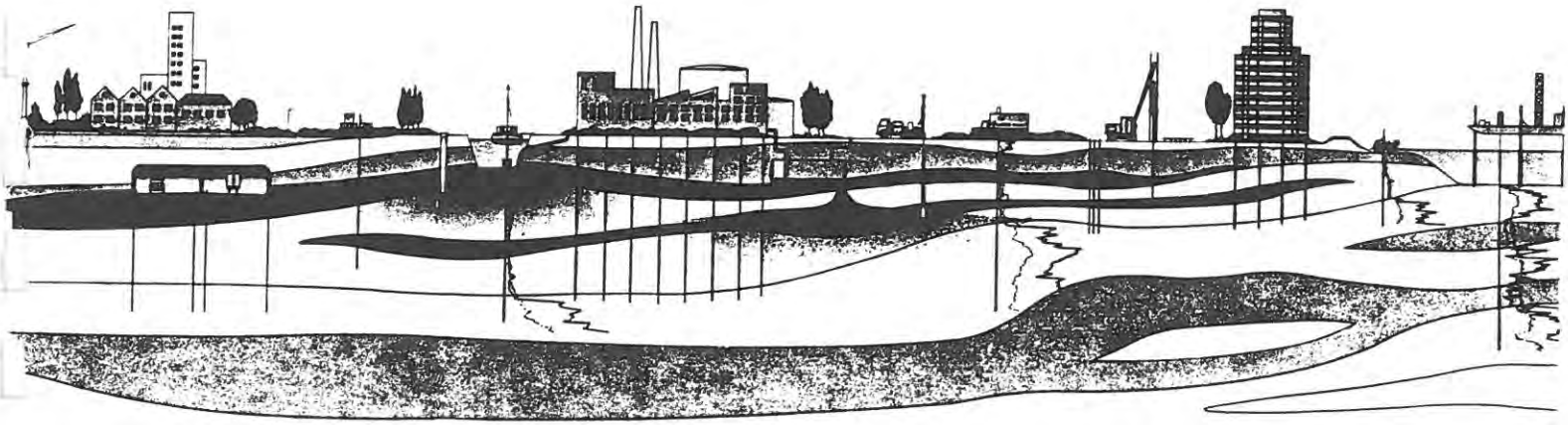

EXHIBIT 4

CONTENTS

1.0 INTRODUCTION 1
1.1 PURPOSE AND SCOPE 1
1.2 WORK PERFORMED 1
1.3 SITE DESCRIPTION 2

2.0 PROJECT DESCRIPTION 3
2.1 GENERAL 3
2.2 SITE DEVELOPMENT HISTORY 4
2.2.1 Previous Site Grading 5

3.0 FIELD EXPLORATION AND LABORATORY TESTING 5

4.0 GENERAL SUMMARY OF SITE CONDITIONS 5
4.1 REGIONAL GEOLOGY 5
4.2 GEOLOGIC SETTING 6
4.3 SOIL CONDITIONS 6
4.3.1 Artificial Fill (Af) 6
4.3.2 Alluvium (Qal) 7
4.3.3 Older Alluvium (Qoal) 7
4.4 GROUNDWATER 7

5.0 GEOLOGIC HAZARDS 8
5.1 FAULT SETTING AND DETERMINISTIC SEISMIC HAZARD 8
5.2 PROBABILISTIC SEISMIC HAZARD AND GROUND SHAKING 10
5.3 HISTORICAL SEISMICITY 10
5.4 GROUND RUPTURE POTENTIAL 11
5.5 TSUNAMI AND SEICH HAZARD 12
5.6 LIQUEFACTION POTENTIAL 13
5.6.1 Potential Measures to Reduce the Liquefaction Hazard 14
5.7 SEISMIC SETTLEMENT 15
5.8 STATIC SETTLEMENT 15
5.9 SUBSIDENCE 16
5.10 HYDROCONSOLIDATION 16

6.0 CONCLUSIONS AND RECOMMENDATIONS 17
6.1 PROJECT DEVELOPMENT CONSIDERATIONS 17
6.2 MATERIALS 18

CONTENTS -- CONTINUED

6.3 FILL PLACEMENT 20
6.4 GRADING IN NON-BUILDING AND PAVEMENT AREAS 21
6.5 GRADING AND SITE DEVELOPMENT IN BUILDING AREAS 22
6.5.1 General 22
6.5.2 Overexcavation and Recompaction 22
6.5.3 Surcharging and Pile Foundations 24
6.5.4 Stone Columns and Surcharging 24
6.6 FOUNDATION DESIGN 27
6.6.1 Shallow Foundations 27
6.6.3 Pile Foundations 28
6.7 SEISMIC DESIGN 30
6.8 SLAB-ON-GRADE 30
6.9 PAVEMENT DESIGN 30
6.10 UTILITY TRENCHES AND SHALLOW EXCAVATIONS 31
6.11 DRAINAGE CONTROL 32
6.12 CORROSIVITY 32
6.13 ADDITIONAL SERVICES 32
6.13.1 Plan Review 32
6.13.2 Observation and Testing 33
7.0 CLOSURE 33
8.0 REFERENCES 34

PLATES

Vicinity Map 1
Subsurface Exploration Map 2
Geotechnical Cross Sections 3
Axial Pile Capacity 4

TABLES

Table 1- Significant Faults 9
Table 2 - Structural Section Recommendations 31

CONTENTS -- CONTINUED

APPENDICES

APPENDIX A	FIELD EXPLORATION	
	Plates A-1 through A-10	Logs of Drill Holes
	Plate A-11	Key to Terms Used on Logs
	Plate A-12 through A-23	Log of CPT
	Plate A-24	Legend To CPT
APPENDIX B -	LABORATORY TESTING	
	Plate B-1	Summary of Laboratory Test Results
	Plate B-2	Grain Size Curves
	Plate B-3	Plasticity Chart
	Plate B-4	Consolidation Test Results

1.0 INTRODUCTION

Fugro is pleased to submit this geological and geotechnical engineering report for the proposed Gateway Center development located at the Santa Barbara Airport, Santa Barbara, California. This report was prepared in general accordance with our proposal for Geotechnical Engineering Services dated February 20, 1998. Our services for this project were authorized by your acceptance of our Professional Service Agreement dated February 25, 1998.

This report summarizes our field and laboratory testing data compiled during our subsurface exploration and laboratory test programs. On the basis of that information, we have provided our geotechnical engineering opinions and recommendations regarding the design of foundations for the proposed one- and two-story structures, site preparation and grading, and asphalt pavement sections. An assessment of potential geologic hazards that could impact the proposed project is also provided.

1.1 PURPOSE AND SCOPE

The purpose of this geological and geotechnical engineering study was to explore and evaluate the subsurface conditions at the site and to provide opinions and recommendations concerning site development and foundation design. Our understanding of the proposed project and the general scope of geotechnical services to be provided in this study is based on discussions with Mr. Andrew Bermant of the Bermant Development Company. Information from our discussions, field exploration, laboratory testing, literature review, and engineering evaluation has been used in preparing this report.

1.2 WORK PERFORMED

Our scope of services for the proposed project was presented in our proposal dated February 20, 1998. Work performed for the project consisted of the following tasks:

- Reviewing historic aerial photographs and reviewing existing pertinent and readily available geotechnical and geologic data for the site vicinity;
- Advancing 12 cone penetration test (CPT) soundings and drilling 10 hollow stem-auger drill holes at the site;
- Laboratory testing of selected soil samples obtained from the exploratory drill holes;
- Evaluating field and laboratory test data, and performing engineering analyses; and
- Preparing this written report with graphics.

On the basis of the data obtained for the site, we have provided our geotechnical opinions and recommendations regarding:

Geologic Considerations

- Regional geologic setting;
- Soil and groundwater conditions;
- Deterministic estimates of strong ground shaking due to maximum credible earthquakes on local or regional faults; and
- Potential geologic hazards (such as strong ground shaking, ground rupture, liquefaction, tsunami and seiche, hydroconsolidation, subsidence, and seismic settlement) that could impact the site;

Site Development

- Site preparation, site grading, and compaction;
- Materials recommendations, including evaluating the suitability of on-site soils for use as compacted fill;
- Measures to reduce the site's liquefaction hazard and the effect of compressible soils,
- Foundation design for shallow foundations and deep foundations (driven concrete piles);
- Seismic design considerations
- Design of slabs on grade;
- Roadway structural sections for asphalt concrete pavements for access roads and parking areas.

1.3 SITE DESCRIPTION

The site is located north of Hollister Avenue and south of Botello Road between Love Place and Lopez Road, and occupies about the southern half of the Santa Barbara Airport Specific Plan area. The Santa Barbara Specific Plan (specific plan) area is bounded by Hollister Avenue on the south, Love Place on the west, and Lopez Road on the east. The northern limit of the specific plan area is located about 150 feet south of the existing Union Pacific Railroad tracks. The specific plan area is part of the Santa Barbara Airport and is owned and controlled by the City of Santa Barbara. The location of the project site relative to nearby streets and local geographic features is shown on Plate 1 - Vicinity Map.

On the basis of site topography (Flowers and Associates 1997), site grades are relatively flat and vary from a high of about 21 feet above mean seal level (MSL) in the

north-central portion of the site to about 12 feet in the southwest corner. The site area is currently being used for commercial and industrial purposes and numerous structures exist on the site. The majority of the existing structures are military facilities that were constructed by the Marines in the 1940's. Many of the existing structures are in relatively poor condition and appear to be abandoned. We understand that the existing structures will be demolished as part of this project.

The southeast corner of the site is currently undeveloped and covered with low grasses that are periodically maintained. A large portion of the southwest part of the site is covered by concrete paving that was constructed in the 1940's as part of the Marine Corps Base. Areas of asphalt paving exist adjacent to occupied structures in the east and central portion of the site. Secondary streets within the project site consist of Robert Road, Becknell Road, and McCloskey Place. Numerous functional and potentially abandoned underground utility lines exist on the site.

2.0 PROJECT DESCRIPTION

2.1 GENERAL

We understand that the proposed project will consist of the construction of five, single-story structures and an additional structure consisting of single-story (east wing) and two-story (west wing) section. The proposed buildings will be used for retail and commercial purposes. On the basis of a preliminary site plan provided by Poliquin Kellogg Design Group dated February 25, 1998, proposed building footprints will range from about 7,000 square-feet to about 40,000 square-feet. We understand that the commercial structures will be built using concrete tilt-up construction and the retail buildings will likely be of wood- or light steel-frame construction. In addition, we understand that paved parking areas for approximately 600 vehicles will be provided.

A detailed site development plan outlining planned grading and proposed structural loading conditions has not been developed at this time. However, on the basis of discussions with Mr. Steve Wang of Penfield and Smith Engineers (P&S), we understand that the grades within the project site will be raised (or lowered) to achieve finished site grades of about elevation 18 to 19 feet above mean sea level (MSL). The thickness of fill required to meet the planned grades is anticipated to range from about 2 to 5 feet. Additional fill thickness associated with overexcavation and recompaction of existing on-site materials will be required to provide support for the overlying fill and structures.

On the basis of discussions with Mr. Steven Tanikawa of SKT Structural Engineering, we understand that maximum column loads for the various structures will range from the following:

Building Type	Maximum Column Load (dead + live)	Maximum Perimeter Footing Load (dead + live)
Single-Story Retail	20 kips	2 kips/ft
Single-Story Commercial	100 kips	5 kips/ft
Two-Story Commercial	200 kips	6.5 kips/ft

2.2 SITE DEVELOPMENT HISTORY

To estimate the site land use history and previous construction impacts at the project site, we reviewed historical aerial photographs from the UCSB Map and Imagery Laboratory. The following aerial photographs were reviewed for this study:

Photograph Flight Line	Date Flown	Scale	Frames Reviewed
C-430	1929	1:24,000	B-24, B-25
C-4959	1938	1:24,000	F-18, F-20
BTM-1943	1943-1944	1:20,000	5B-04, 4B-196
GS-EM	1947	1:24,000	106, 107
BTM-1954	1954	1:20,000	6K-115, 6K-116

The 1929 photographs showed the project site as undeveloped agricultural land that appeared to be dry farmed, fallow, or used for grazing. The project site in these photographs did not indicate any apparent significant grading or site modifications, however, it is possible that the some realigning of the San Pedro Creek drainage channel could have occurred prior to 1929. On the 1929 photograph, the San Pedro Creek channel was observed trending northeast-southwest through the eastern portion of the project site. By 1943, the creek channel had been re-routed to the east and the project site had been graded and developed as a Marine Corps Base. Several military facilities were visible on the 1943 photographs. In addition, an oval-shaped area of raised ground was observed in the north-central portion of the site and three circular structures were observed within the raised area. Three of the military buildings observed on the 1943 photographs were apparently demolished prior to 1954. The approximate locations of the former San Pedro Creek channel (as shown on the 1929 photograph), the oval-shaped raised area, and former military structures are shown on Plate 2 - Subsurface Exploration Map.

2.2.1 Previous Site Grading

On the basis of our review of historical aerial photographs, is appears that previous grading has occurred on the site, probably associated with the initial agricultural uses prior to the 1930's and subsequent development of the site by the Marine Corps in the 1940's. On the basis of our work at the site, we estimate that previous site grading likely involved the placement of less than about 2 feet to about 7 feet of fill throughout the site area as well as the placement of fill in the former San Pedro Creek drainage channel area. Previous fill materials were likely placed with little or no quality control and without regard to future site uses.

3.0 FIELD EXPLORATION AND LABORATORY TESTING

Our geotechnical engineering study for the proposed project consisted of performing field exploration and laboratory testing programs together with geotechnical evaluations. The field exploration program consisted of advancing 12 cone penetration test (CPT) soundings to depths of ranging from about 30 to 75 feet below the existing ground surface and drilling and sampling 10 exploratory drill holes to depths ranging from about 20 to 71 feet. The approximate locations of the drill holes and CPT soundings for this study are shown on Plate 2 - Subsurface Exploration Plan.

Laboratory testing was conducted on selected soil samples obtained from the drill holes to characterize general geotechnical engineering properties of the soil and to aid in the interpretation of the cone penetration test data. The field and laboratory data for this study are presented in Appendices A and B, respectively.

4.0 GENERAL SUMMARY OF SITE CONDITIONS

4.1 REGIONAL GEOLOGY

The project is located within the western portion of the Transverse Ranges geomorphic province. The province is locally dominated by the east-west trending Santa Ynez Mountain Range, which extends continuously for about 75 miles from Point Arguello eastward into Ventura County. The Santa Ynez Mountains and adjacent lowlands are comprised of sedimentary rocks and soil materials ranging in age from Cretaceous to recent. Structural geology in the Santa Barbara and Goleta area consists of a south-dipping homocline and adjacent coastal plain cut by a series of subparallel east-west trending faults and folds that are the result of north-south compressional tectonics. The faults and folds roughly parallel the Santa Ynez Mountains to the north and extend into the Santa Barbara Channel.

4.2 GEOLOGIC SETTING

The project is located in the west-central portion of the Goleta Valley less than 1-1/2 miles north of the Pacific Ocean. The project area is bound by the Goleta Slough on the south and the Santa Ynez Mountain range on the north. The general geology of the project site consists of a low lying coastal plain of Quaternary-aged alluvium unconformably overlying a thick sequence of Tertiary-aged sedimentary rocks. As encountered in the exploratory borings, the proposed development areas are generally underlain by artificial fill materials, alluvium, and older alluvium.

Although not encountered in our cone penetration test soundings and drill holes, Santa Barbara Formation bedrock is estimated to underlie the site at depth. A description of the earth materials encountered in our drill holes is presented in Appendix A, and in Section 4.3 of this report.

4.3 SOIL CONDITIONS

The description of soil conditions presented herein is based on visual classification of samples obtained from our field explorations, the results of subsequent geotechnical laboratory testing, and our interpretation of the cone penetration test data. The general earth material types encountered during our field exploration consisted of artificial fill materials, alluvium, and older alluvium.

Geotechnical cross sections were prepared using the CPT data to depict our interpretation of the subsurface conditions and the potential variability within the limits of the proposed project. The cross sections are provided on Plate 3 - Geotechnical Cross Sections. Generalized descriptions of the significant earth materials encountered in our explorations are provided below.

4.3.1 Artificial Fill (Af)

Artificial fill was encountered in our borings and CPT soundings and generally consists of very loose to medium dense silty sand (SM) with minor sandy lean clay (CL) interbeds. Artificial fill materials consisting of aggregate base were also encountered below asphalt-paved areas. Soil materials considered to be artificial fill were encountered to depths ranging from less than about 2 feet to about 7 feet below the existing ground surface. Because of the difficulties in distinguishing the artificial fill materials from the native soils, it is possible that greater thicknesses of fill are present than were logged in our drill holes.

Remnants of the former San Pedro Creek drainage channel such as tree roots, brush or other debris were not observed in the drill holes excavated within the estimated channel limits shown on Plate 2. However, artificial fill materials associated with the former drainage channel

likely exist in that region of the site and could potentially extend down to depths of about 10 feet or more.

4.3.2 Alluvium (Qal)

Alluvial soils were encountered in the drill holes and CPT soundings performed on the site with the exception of DH-9. Older alluvium was logged below the artificial fill at that location. Where encountered, the alluvium consists of silty fine sand (SM) and clayey sand (SC) and sandy lean clay and lean clay (CL). Generally, the granular alluvial soils are very loose to loose to depths of about 10 to 20 feet below the existing ground surface and are generally loose to dense below a depth of 20 feet. The cohesive soils are generally soft to medium stiff to depths of about 20 feet and grade to medium stiff to stiff below a depth of about 20 feet. Some of the fine-grained strata encountered within the alluvium were likely deposited in an estuarine-like environment.

The thickness of the alluvial soils varies significantly across the site ranging from non-existent in the western limits of the site (near DH-9), to about 20 feet in the southwest, west, and central portions of the site (near CPT-1, CPT-2, CPT-3, CPT-4, CPT-5, and CPT-10), and up to about to 50 feet thick in the eastern portion of the site (in the area of CPT- 12 and east of CPT-12).

4.3.3 Older Alluvium (Qoal)

Older alluvial soils were encountered in the CPT soundings and drill holes performed for the project with the exception of DH-1, DH-4, DH-6, and DH-7 where alluvial materials were logged to the maximum depth explored. In general, the older alluvial soils consist of dense to very dense silty sand (SM), stiff to very stiff sandy lean clay, and dense/stiff sandy and clayey silt (ML). As discussed above, the depth to contact between the alluvium (or artificial fill where alluvium was not encountered) and older alluvium is believed to vary significantly across the site ranging from less than about 5 feet to about 50 feet below the existing ground surface.

4.4 GROUNDWATER

Groundwater was encountered in each of the ten hollow stem auger drill holes at depths ranging from about 5 to 17 feet below the existing ground surface. Those depths to groundwater correspond to elevations of about 0 to 9.5 feet above mean sea level (MSL). Groundwater levels were not measured in the CPT soundings. We note that variations in groundwater levels, the rate of seepage, and soil moisture conditions can occur as a result of rainfall, irrigation, runoff, and other factors.

5.0 GEOLOGIC HAZARDS

5.1 FAULT SETTING AND DETERMINISTIC SEISMIC HAZARD ANALYSES

The project is located in a seismically active area of southern California. Significant ground shaking in response to local and/or regional earthquakes should be expected at the project site in the future. Fault and seismic conditions at the site were evaluated by reviewing selected geologic maps, published information, and using the computer program EQFAULT (Blake, 1995a). The intent of our evaluation was to estimate maximum credible earthquakes occurring on active and potentially active faults within the site vicinity. The maximum credible earthquake (MCE) is defined as the maximum earthquake that appears to be capable of occurring on a fault within the known tectonic framework.

EQFAULT was used to provide deterministic estimates of maximum credible peak ground acceleration at the site on the basis of digitized fault data obtained from selected references. The fault search performed using EQFAULT indicates that 47 mapped active and potentially active faults are located within a 100-mile radius of the site. The results of the EQFAULT search, the distance to selected faults, and the estimated maximum credible magnitudes and accelerations are summarized in Table 1 - Significant Faults. The listed faults were selected on the basis of their proximity to the site, and their potential to generate strong ground motion at the site.

Table 1 - Significant Faults

Fault Name	Approximate Distance Between Site and Surface Projection of Earthquake Rupture Area (Miles)	Estimated Maximum Credible Earthquake Magnitude	Estimated Maximum Credible Peak Bedrock Acceleration, Mean Value (g)
Arroyo Parida - More Ranch	<1	6.7	0.60
North Channel Slope	<1	7.1	0.74
Santa Ynez	7	6.9	0.30
Red Mountain	10	6.8	0.26
Montalvo-Oak Ridge Trend	16	6.6	0.22
Ventura - Pitas Point	18	6.8	0.17
Los Alamos - W. Baseline	19	6.8	0.17
Oak Ridge (Blind Thrust Offshore)	20	6.9	0.21
Santa Cruz Island	26	6.8	0.13
Santa Rosa Island	29	6.9	0.13
Channel Island Thrust	31	7.4	0.20
Anacapa - Dume	36	7.3	0.13
San Andreas - 1857 Rupture	42	7.8	0.13

Deterministic seismicity analyses were performed to estimate the potential upper-bound limit for peak horizontal ground accelerations (pga) from individual fault sources. Mean values of pga were computed using the attenuation relationship of Boore, et al. (1993) [random horizontal component, site class C].

The Arroyo Parida-Mission Ridge-More Ranch fault is the closest fault to the site and a maximum credible earthquake on that fault system is estimated to result in a mean maximum credible peak ground acceleration of about 0.60g at the site. However, another regional fault of close proximity to the site, the North Channel Slope fault, is estimated to have the potential to generate the strongest horizontal ground motions compared to the other faults in the model. A maximum credible earthquake on the North Channel Slope fault is estimated to result in a mean maximum credible peak ground acceleration of about 0.74g.

5.2 PROBABILISTIC SEISMIC HAZARD AND STRONG GROUND SHAKING

As discussed previously, strong ground shaking can be expected due to earthquakes occurring on one or more mapped or unmapped faults within the southern and central California region. The computer program FRISKSP (Blake, 1995b) was used to perform a probabilistic seismic hazard analysis to assess peak horizontal ground accelerations (pga) that could occur at the site from known seismic sources. Estimates of pga corresponding to exceedance probabilities of 10-percent and 50-percent for an exposure period of 50 years were conducted using FRISKSP. The analysis was performed using attenuation relations of Boore et al. (1993). The effects of uncertainty were also considered in the analyses. The following table presents the results of the FRISKSP evaluation.

Probability of Exceedance (%)	Exposure Period (years)	Return Period (years)	Estimated Peak Horizontal Ground Acceleration (g)	Magnitude (M7.5) Weighted Estimated Peak Ground Acceleration
10	50	475	0.51	0.43
50	50	144	0.23	--

We suggest that, for design, vertical ground accelerations be taken as three quarters of the horizontal component.

5.3 HISTORICAL SEISMICITY

The site is located in a seismically active area of southern California. There have been a number of historical earthquakes that have affected the project region. The earliest reported seismic event occurred on November 11, 1800, causing light damage to the Santa Barbara Mission (Olson, 1982). The epicenter for this earthquake is unknown.

The 1800 earthquake is not included within the California Division of Mines and Geology's (CDMG) earthquake catalog. According to that catalog (Blake, 1995c) and Lee et al. (1978), the earliest recorded destructive earthquake occurred on December 21, 1812. That major earthquake destroyed the Royal Presidio and partially destroyed the Santa Barbara Mission (Olson, 1982). The 1812 earthquake was an estimated magnitude 7.0 (M7.0) and reportedly was accompanied by a tsunami along the coast of Santa Barbara (Moore & Taber, 1974). It is thought that the earthquake occurred on an offshore fault (Moore & Taber, 1974; Olson, 1982)

The Santa Barbara area was shaken by the 1857 Fort Tejon earthquake that occurred along the Mojave segment of the San Andreas fault. There are reports of cracking occurring to structure walls in the area, rocks rolling down from the hills, and water spilling from the Mission reservoir during that earthquake (Moore & Taber, 1974).

The most well known seismic event in the region was the Santa Barbara earthquake that occurred on June 29, 1925. That earthquake is estimated as a M6.25 event that destroyed large areas within the City and County of Santa Barbara. It is thought that an offshore fault was the source for the 1925 earthquake (Moore & Taber, 1974).

A M5.9 earthquake occurred offshore of Carpinteria on June 30, 1941. That earthquake damaged buildings in Santa Barbara that reportedly were "imperfectly repaired" from the 1925 earthquake (Moore & Taber, 1974). A swarm of earthquakes also affected the Santa Barbara area in 1968. This swarm of earthquakes occurred in the Santa Barbara Channel and consisted of 63 shocks, the greatest being M5.2 (Olsen & Sylvester, 1975).

The most recent relatively significant earthquake to effect the project area occurred on August 13, 1978. Data recorded from instrumentation during that M5.1 earthquake have indicated that the earthquake epicenter was located offshore within about 2.5 miles of Santa Barbara and occurred on a north dipping reverse fault (Lee et al., 1978; Corbett & Johnson, 1981).

From between 1800 to 1997, a total of 26 magnitude 5.0 and greater earthquakes have been recorded in the project region in CDMG's earthquake catalog (Blake, 1995c). A total of 710 magnitude 4.0 and greater earthquakes are recorded for this region in the earthquake catalog (Blake, 1995c). Of those earthquakes in close proximity to the site, the M7.1 1812 earthquake is the largest reported earthquake effecting the area (Blake, 1995c).

5.4 GROUND RUPTURE POTENTIAL

The More Ranch fault zone, located about 5,000 feet south of the project site, is the closest significant fault to the site (Olson, 1982). The More Ranch fault was mapped by Hill (1932) as two separate faults; the Ellwood Fault and the More Ranch Fault. These faults were later mapped by Dibblee (1966) as a continuous east-west trending fault termed the More Ranch fault that separates the Goleta Valley from the "Devereux-University" coastal mesa. The More Ranch fault trends westward from the Mesa Fault, and branches into two strands west of Mescalitan Island (Olson, 1982).

Based on our review of selected published and unpublished documents, the More Ranch fault system is generally considered to be at least potentially active. This opinion is based on the north facing scarp, which forms the northern edge of the coastal mesa, and on the displacement of terrace deposits on the coast west of the project site. The More Ranch fault system is not listed by the State of California Division of Mines and Geology as active, based on the definition contained in the Alquist-Priolo Fault Hazards Act of 19__ (faults with documented displacement within Holocene time). Because no active or potentially

active faults have been mapped by others that cross or trend toward the site, in our opinion, the ground rupture potential due to faulting appears to be low.

5.5 TSUNAMI AND SEICH HAZARD

Tsunamis are long-period sea waves generated by seismic events or submarine landslides. Earthquake or submarine landslide sources of a tsunamis can occur locally or many thousands of miles away. The presence of tsunamis is essentially imperceptible in deep ocean waters; however, as a tsunami enters shallow water and makes landfall, it becomes evident as a wave run-up onto coastal zones or as tidal bores within creeks, rivers, and estuaries.

There are several accounts of tsunamis striking the Santa Barbara coastline. The first reported tsunami occurred during the 1812 earthquake and the accounts of that tsunami are unreliable and vary from 50 feet in height to nonexistent (Moore & Taber, 1974).

The only reliable account of a tsunami occurring along the Santa Barbara coastline occurred after the November 4, 1927 M7.5 earthquake off of Point Arguello. Following that event, a tsunami with heights of up to about 6 feet above mean tide level were recorded at locations along the coasts of Santa Barbara and San Luis Obispo Counties (Moore & Taber, 1974).

Tsunami run-up has the potential to adversely affect the site. Studies by Houston and Garcia (1978) have estimated that tsunami run-up can occur in the project area and could range from 5.5 feet to 11.0 feet above tide levels for tsunami events with 100- and 500-year recurrence intervals. However, because the site is located about 6,000 feet from the confined inlet to the Goleta Slough and is at current elevation of about 13 to 20 feet above mean sea level (MSL) with planned grades of about +18 feet above MSL, it is likely that tsunami run-up, if it reached the site, would have a minimal impact.

It should be noted that if the 500-year tsunami event occurred and tides of greater than 7 feet were present at the time, the tsunami could inundate the site. However, that inundation would be on the order of inches of water. Plus, due to the confined inlet at the Goleta Slough, it is likely that an initial surge of water from a tsunami could enter the slough and would be rapidly dispersed in the broad area north of the slough, thus, limiting the potential for a tsunami to reach the site.

Seiches are seismically induced oscillations of land-locked bodies of water. Damage is caused when those bodies of water overtop their containment and inundate adjacent or downstream properties and structures. No known landlocked bodies of water

are currently present near or upstream from the site. On that basis, it is our opinion that the potential for seiches to adversely affect the site is low.

5.6 LIQUEFACTION POTENTIAL

Liquefaction is the significant reduction in shear strength of granular soil materials due to buildup of pore water pressure in response to earthquake-generated seismic shaking. Liquefaction typically occurs in loose, saturated granular soil materials (that is sand, silty sand, and potentially clayey sand and nonplastic silt). For the design of shallow foundations, soil liquefaction is generally not considered to be a significant concern if the soil materials are clayey (that is lean clay, fat clay, and clayey silt) or dense (if granular), or if groundwater is not present within the upper 40 to 50 feet at the ground surface.

The soil materials encountered in the exploratory borings and CPT soundings generally consist of very loose to very dense granular soils (silty sand, clayey sand, and sand) and soft to very stiff fine grained soils (lean clay, and clayey silt). Groundwater was encountered in our drill holes at depths of about 5 to 17 feet below the existing ground surface (elevations of about 0 to 9.5 feet, MSL).

In general, the very loose to medium dense granular soils encountered in the artificial fill and alluvial strata below the groundwater level are considered to be susceptible to liquefaction on the basis of grain size characteristics, plasticity, and the cone tip resistance and blow count data.

Using the CPT sounding data and the empirical liquefaction analysis procedure described in Youd et al. (1996), in our opinion, potentially liquefiable layer thicknesses (individual layer thicknesses) range from less than a foot to about 5 feet and cumulative liquefiable layer thicknesses (summation of individual liquefiable soil layer thicknesses in a given CPT sounding) appear to range from about less than a foot (at CPT-4, CPT-5, CPT-10, and CPT-11) to about 13 feet (at CPT-8 and CPT-9).

The consequences of liquefaction of the saturated, very loose to medium dense coarse grained and nonplastic fine grained soil materials under the present groundwater conditions could involve ground surface settlement, sand boils, and possibly ground lurching. Using the procedure described by Tokimatsu and Seed (1987), we estimate that ground surface settlements of up to about 3 to 4 inches could occur as a result of soil liquefaction for the present site conditions.

Sand boils are formed when granular material in a liquefied soil layer (generally near the ground surface) is forced to the ground surface by the buildup of soil pore water pressures. The formation of sand boils can result in general ground surface subsidence due to the ejection of soil material from the subsurface. Ground lurching effects (decoupling of

soil layers at the interface of a liquefied soil layer) results in lateral deformation and cracking at the ground surface. Currently, there are no analytical methods of procedures for estimating the magnitude of subsidence caused by the development of sand boils or the magnitude of lateral deformation caused by ground lurching. However, we would anticipate that the formation of sand boils could result in a few to several inches of additional ground subsidence and lurching effects could result in lateral deformations of several inches.

5.6.1 Potential Measures to Reduce the Liquefaction Hazard

Methods of reducing the liquefaction potential of the subsurface soils at the project site could consist of: 1) dewatering and limited overexcavation of liquefiable soil layers and, 2) in situ ground improvement techniques such as vibro-replacement stone columns, compaction grouting, or deep dynamic compaction. Of the ground improvement techniques, in our opinion, vibro-replacement using stone columns would likely be best suited for the site considering the subsurface conditions, the potential area to be treated, and the absence of existing improvements (that will remain) that could be damaged with this technique.

Dewatering and overexcavation techniques would involve lowering the groundwater level and excavating the liquefiable soil materials. This method was reportedly used for the design and construction of the existing City of Santa Barbara fire station located southwest of the project site. We understand that shoring was likely used and that the overexcavation extended to a depth of about 20 to 25 feet.

Ground improvement using vibro-replacement stone columns involves constructing columns of crushed stone in the ground by means of a 12- to 18-inch-diameter depth vibrator pipe. The depth vibrator is installed to the treatment depth and crushed stone is delivered to the tip of the vibrator using compressed air (dry method) or water (wet method). The crushed stone is densified by the vibrating action of the depth vibrator. The construction of the stone columns displaces and densifies granular soil layers increasing their liquefaction resistance. Liquefaction resistance is also increased by the confinement of potentially liquefiable soil layers and the increased drainage provided by the stone columns.

Densification and strength improvement in fine-grained soils such as sandy silt and clayey silt (ML) and clayey soils (CL, CH) using stone columns is generally limited. Improvement in fine-grained soils is generally derived from favorable redistribution of static and seismic stresses and a general increase in the overall rigidity of the soil profile.

The stone columns are typically constructed on a grid pattern at spacings of about 6 to 10+ feet. This method was used to reduce the liquefaction hazard at the City of Santa Barbara's El Estero Waste Water Treatment Plant in the mid 1970's.

Compaction grouting involves the injection of a low-slump grout mix in the ground under relatively high pressures. Grout is injected at discrete depths (typically on one foot vertical spacings) from grout pipes installed on a grid pattern with horizontal spacings of about 5 feet to 10+ feet. Compaction grouting was recently used for the development of two building additions at the City's El Estero Waste Water Treatment Plant to reduce the site's liquefaction hazard.

Deep dynamic compaction techniques involve dropping a heavy weight repeatedly on the ground on a grid-type pattern. The weight varies from about 8 to 35 metric tons and the height of the drop varies from about 25 to 100 feet. The impact of the drop and the stress waves generated help in the densification of granular soils.

5.7 SEISMIC SETTLEMENT

Settlement of unsaturated granular soils (soils above the groundwater level) can occur during a seismic event as a result of densification caused by the ground shaking. The settlement of unsaturated granular soils differs from that of saturated granular soils that occurs from soil liquefaction. Settlements of unsaturated soils due to seismic shaking can range from fractions of an inch to several feet depending upon the lithology of the soils and the characteristics of the earthquake. On the basis of the subsurface data obtained from our exploration program, seismically-induced settlement of the existing (unimproved) granular soils above the groundwater level is anticipated to be less than an about 1 to 2 inches.

5.8 STATIC SETTLEMENT

Settlement magnitudes due to static loads from structures and fills can cause the underlying soil materials to consolidate or compress. The magnitude of the settlement from static loads can range from fractions of an inch to several feet, depending upon the compressibility characteristics and thicknesses of the underlying soils, and the loads and distributions of loads. These settlements can occur rapidly or or can occur over long periods of time (months or years) depending on the site lithology.

On the basis of our analyses, the proposed placement of fill to raise the site grades could result in long term static settlements. Estimated settlements for unimproved soil conditions (that is without significant overexcavation or implementing ground improvement techniques) corresponding to the placement of various fill heights are listed below:

Fill Height	2 Feet	4 Feet	6 Feet
Estimated Range of Settlement (in)	up to about 3/4 inch	up to about 1-1/4 inches	up to about 3-1/2 inches

Settlements from building loads were also estimated for unimproved ground conditions. Estimated post-construction settlements for the proposed one and two-story structures are listed below. Maximum column loads assumed in the analyses correspond to those listed in Section 2.1 and an allowable bearing pressure of 2,000 psf. The estimated values assume that the upper 5 feet of the existing soil materials are overexcavated and recompacted, the fill proposed to raise the site grade has been placed, and the site has consolidated under the weight of the proposed fill.

Proposed Structures	Estimated Range of Footing Settlement
One-Story Retail	up to about 1 inch
One-Story Commercial	up to about 2-1/4 inches
Two-Story Commercial	up to about 3-1/2 inches

On the basis of our consolidation data and site lithology, we estimate that the majority of the settlement due to static loads (placement of additional fill or building loads) should occur within about 2 to 4 months after the loads are applied.

5.9 SUBSIDENCE

Regional and local settlement and subsidence can occur due to the withdrawal of fluids from underlying geologic reservoirs of water and petroleum products. Settlement magnitudes due to extraction of fluids from underlying reservoirs can range from fractions of a foot to tens of feet. We know of no subsidence occurring due to the extraction of fluids from underground reservoirs in the region. However, because the upper soil materials are considered to be relatively compressible, there is a potential for settlements to occur at the site due to local or regional lowering of the groundwater level. Settlements from groundwater lowering can range from less than an inch to several inches depending on the extent of the lowering of the groundwater level.

5.10 HYDROCONSOLIDATION

Hydroconsolidation of soil (soil collapse) occurs when water is introduced to soils that are weakly cemented with water soluble materials, such as calcium carbonate or argillic cementations. Poorly compacted man-made fills can also be susceptible to collapse upon inundation with water. Settlement from soil collapse can occur catastrophically or gradually over time. Magnitudes of collapse can range from fractions of an inch to several feet and are dependent upon the depths of water exposure, degree of cementation, and lithologic

characteristics of the soil. On the basis of the low sampler blow count data and cone penetration tip resistances measured in the artificial fill and alluvial materials, in our opinion, those materials located above the groundwater level could be susceptible to soil collapse. The magnitude of settlement resulting from collapse of the artificial fill and alluvial materials above the groundwater level (in the current condition) has not been determined analytically, but is anticipated to be less than about 1 to 3 inches. Recommendations for site improvement provided herein are anticipated to significantly reduce the potential for hydroconsolidation.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations of our geologic and geotechnical study are based on our exploration and testing programs, together with our understanding of the proposed project. Our recommendations for site development, site preparation and grading, foundation design, and pavements for the proposed site improvements are presented below.

6.1 PROJECT DEVELOPMENT CONSIDERATIONS

From a geotechnical engineering standpoint, there are two potentially significant site characteristics that could impact the development of the proposed project:

- The presence of saturated, soft, compressible soil materials in the upper 20 feet that will likely settle under the weight of proposed fills and building loads, and
- The presence of very loose to loose granular soils that have the potential to liquefy in the event of a significant earthquake resulting in surface manifestations such as ground settlement, sand boils, and ground fissuring.

The site development and grading activities and the foundation systems selected for the proposed project will need to consider both the presence of soft compressible soils and the potential for soil liquefaction. There are several methods of addressing the potential impacts of the compressible soil and soil liquefaction on the proposed foundation systems.

6.6.1 Compressible Soils

In our opinion, potential methods of reducing the potential impacts associated with the presence of compressible soils and foundation settlements consist of:

- Dewatering and overexcavating the soft compressible soil materials within the influence of the proposed building foundations [expected to be about 20 feet] and supporting the proposed buildings on shallow foundations,

- Limited overexcavation and surcharging proposed building areas to precompress the soft soils prior to construction and supporting the proposed buildings on shallow foundations,
- Limited overexcavation and limited surcharge in building areas prior to construction and supporting the proposed buildings on driven prestressed concrete piles and structural slabs, and
- Ground improvement using stone columns followed by limited overexcavation, surcharging and building construction using conventional footings and slabs-on-grade.

6.1.2 Liquifiable Soils

The methods of reducing the potential impacts associated with soil liquefaction are more limited and generally consist of:

- Dewatering and limited overexcavation of potentially liquefiable soil layers,
- Supporting the proposed building on driven piles and structural slabs and designing the proposed piles for downdrag loads caused by liquefaction, and
- Ground improvement techniques.

Soil surcharging alone would be expected to provide only a marginal reduction in the site's liquefaction potential. Therefore the option of surcharging the site together with supporting the proposed the buildings on shallow foundation systems is not recommended for the proposed development.

6.1.3 Suggested Measures To Reduce Settlement and Liquefaciton Potential

Measures to reduce the potential impacts of compressible soils and soil liquefaction addressed in this report will be limited to the following:

- Dewatering and overexcavation of the soil materials in the upper 15 to 20 feet,
- Limited overexcavation, surcharging, and supporting the proposed structures on driven piles and structural slabs,
- Ground improvement, limited overexcavation, surcharging, and supporting the structures on shallow foundations and slabs-on-grade.

Recommendations for those three remedial measures are provided in Section 6.5 of this report.

6.2 MATERIALS

On-site soils to be used as compacted fill, should be free of organic material, oversized rocks (greater than 4 inches in diameter), and other deleterious materials. On the

basis of our subsurface exploration and laboratory testing programs, the soils encountered within the proposed depths of excavation consist silty sand (SM) and silty clay (CL). Those material types are anticipated to be acceptable for use as compacted fill.

However, the on-site soils will likely be very moist and will likely need to be dried to reach a moisture content suitable for compaction. To reduce the potential for pumping of fill materials, we recommend that the project specifications provide for aerating and drying of excavated on-site soil prior to placement as compacted fill. The contractor should be responsible for selecting a method for drying, such that the on-site materials can be dried and placed according to the project specifications and schedule. Regardless of the condition of the materials, on-site soils should be at a moisture content within 2 percent of the optimum moisture content prior to placement and compaction. If the on-site soils are placed at a moisture content significantly greater than optimum, it could be difficult to achieve the specified level of compaction and there is a potential for pumping of the subgrade or fill when subjected to construction traffic or compactive effort.

Four-inches of granular material for vapor retarder placed below floor slabs should consist of imported material conforming to the Caltrans Standard Specifications for Sand Bedding, Section 19-3.025B.

General import fill imported to the site should be free of organics, oversize material (that is over 4 inches in diameter), trash and debris, and other deleterious material Imported materials used in building areas or in embankment fills should have a expansion index (EI) of less than 20. Imported soils to be used as fill in pavement areas should have an R-value of at least 15, and an expansion pressure less than 100 pounds per square foot, as determined by California Test 301. Imported fill should be visually observed and tested prior to being brought to the site

Aggregate Base should consist of imported material conforming to Caltrans Standard Specifications (Caltrans 1995a) for Class 2 aggregate base, Section 26-1.02A.

Asphalt Concrete should conform to Caltrans Standard Specifications for Type B asphalt concrete, Section 39.

Filter Fabric should consist of a needle-punched nonwoven geotextile conforming to the Caltrans Standard Specifications for Filter Fabric for underdrains, Section 88-1.03.

Geotextile Fabric should consist of Mirafi 500X or equivalent.

Stone Column Gravel Backfill should consist of hard, durable, washed rock that is free of vegetation or other deleterious material. Recycled, washed, crushed angular concrete can be used in lieu of crushed rock provided that it meets all requirements for

crushed rock and contains no more that 5 percent (by weight) of non-concrete materials. In addition to the above, stone column backfill should meet the following requirements:

Sieve Size	Requirement (Percent Passing)
1-1/2 inch	100
1 inch	90 to 100
1/2 inch	10 to 60
No. 4	0 to 5

Other Requirements	Proposed Compliance Limits (Test Method)
Durability Index	40 min. (California Test Method 229)
Specific Gravity	2.6 min. (ASTM C127)
Weight Loss	10 percent max. when tested for Sulfate Soundness (ASTM C88)

Float Rock should consist of 3-inch minus quarry-run rock having 100 percent of the material passing the 3-inch sieve, 0 to 30 percent passing the 2-inch sieve, 0 to 10 percent passing the 3/4-inch sieve, and less than 5 percent passing the No. 4 sieve. Float rock aggregates should have at least 75 percent fractured faces.

6.3 FILL PLACEMENT

Fill placement and grading operations should be performed according to the grading recommendations of this report. We recommend that, unless otherwise noted, fill and backfill materials be compacted to at least 95 percent relative compaction, as determined by the latest approved edition of ASTM Test Method D1557. Graded cut or fill slopes should be designed at inclinations of 2:1 (horizontal to vertical) or flatter.

Compacted fill derived from on-site soils or imported materials should be placed and compacted at a moisture content within 2 percent of the optimum moisture content. Each layer should be spread evenly and should be thoroughly blade-mixed during the spreading to provide relative uniformity of material within each layer. Soft or yielding materials should be removed and be replaced with properly compacted fill material, prior to placing the next layer. Rock, gravel and other oversized material, greater than 4 inches in diameter, should be removed from the fill material being placed

When the moisture content of the fill material is below that sufficient to achieve the recommended compaction, water should be added to the fill. While water is being added, the soil should be bladed and mixed to provide a relatively uniform moisture content throughout the material. When the moisture content of the fill material is excessive, the fill

material should be aerated by blading or other methods. Fill should be spread in lifts no thicker than approximately 8 inches prior to being compacted. Fill and backfill materials may need to be placed in thinner lifts to achieve the recommended compaction with the equipment being used.

6.4 GRADING IN NON-BUILDING AND PAVEMENT AREAS

We understand that the general site grades will be raised by placing about 2 to 5 feet of fill across the project site. Prior to fill placement, existing asphalt pavement, concrete pavement, building foundations, and utilities should be removed from within the area to be graded and properly disposed of at a suitable disposal site. In addition, vegetation or other organic material should be stripped and transported off-site. Depressions formed by the removal of existing improvements should be backfilled with compacted on-site or import fill.

Following removal of the existing improvements and vegetation, we recommend that the exposed subgrade surface be cross scarified to a depth of about 8 inches and compacted to a minimum of 95 percent relative compaction. Fill can then be placed and compacted to the proposed rough grades.

In proposed pavement areas, we recommend that the subgrade materials be reviewed and tested at the time of construction with regard to the as-graded conditions. In addition, we recommend that the pavement subgrade areas be proof rolled with a loaded water truck or other heavy pneumatic equipment. Soft or loose areas identified from the proof-rolling should be overexcavated and replaced with compacted fill.

Because settlement will occur over time as a result of raising the site grades, we recommend that fine grading be delayed until the settlement has occurred. In addition, to reduce the potential for distress to non-building improvements such as asphalt pavements, curbs and gutters, underground utilities, and other improvements, we recommend delaying the construction of those improvements until after the fill-induced settlements have occurred. We estimate that about 95 percent of the estimated settlement should occur in a period of about 2 to 4 months.

On the basis of our analyses, the proposed placement of fill to raise the site grades could result in significant settlements. Estimated settlements for unimproved soil conditions (that is without significant overexcavation or implementing ground improvement techniques) corresponding to the placement of various fill heights are listed below:

Fill Height	2 Feet	4 Feet	6 Feet
Estimated Range of Settlement (in)	up to about 3/4 inch	up to about 1-1/4 inches	up to about 3-1/2 inches

6.5 GRADING AND SITE DEVELOPMENT IN BUILDING AREAS

6.5.1 General

Site development activities will be influenced by the method used to reduce the liquefaction potential beneath the proposed building areas and the foundation systems selected for design. Proposed remedial measures to address the settlement and liquefaction potential of the subsurface soils proposed herein are intended to significantly reduce, but not completely eliminate the potential for their occurrence or the potential for damage.

6.5.2 Overexcavation and Recompaction

One of the potential alternatives for improving the site conditions consists of overexcavating and replacing the upper 15 to 20 feet the existing soils with compacted fill. If the upper soft, compressible soils and upper liquefiable soils are removed and replaced with compacted fill, in our opinion the proposed structures can be supported on conventional shallow foundation systems. We note that, potentially liquefiable soils exist below a depth of 20 feet and those materials will remain following the proposed overexcavation. However, we anticipate that the impacts of liquefaction of those limited soil layers to the proposed buildings should be nominal (that is liquefaction-induced settlements in the building areas of about 1-inch).

To facilitate the overexcavation and replacement of the soil materials in the upper 15 to 20 feet, an extensive dewatering program would likely be required to lower the groundwater level to a point below the excavation bottom. A significant shoring system may also be required. In addition, the overexcavated soils would likely be very moist and would need to be dried to a water content suitable for compaction or disposed of off-site and replaced with import fill.

6.5.2.1 Site Dewatering

If this method is selected, we recommend that a dewatering program be employed to enable the excavations to be performed under dry conditions. We recommend the dewatering system be capable of lowering the static water level to a distance at least 3 feet below the excavation bottom. The contractor should be responsible for selecting the equipment and method of dewatering the excavation areas. In our opinion, it is likely that an extensive system of well points would be required. Provisions for handling and disposing of the water from the dewatering system would also need to be made.

We recommend that a system of piezometers be installed around the perimeter of the excavations to monitor the effectiveness of the dewatering system. Excavation activities should not commence until the static water level measured in the piezometers indicates that

the static water level has been sufficiently lowered. In addition, we recommend that a system of survey monitoring points be established and monitored on a regular basis during the operation of the dewatering system. The purpose of the survey monitoring would be to track the occurrence of building settlements and settlements of other improvements in the surrounding area due to the dewatering program.

6.5.2.2 Excavation Shoring

The excavations required to remove the compressible soils from within the zone of influence of the building foundations will extend to a relatively significant depth, about 15 to 20 feet below the existing ground surface. The soils within that depth range are soft to medium stiff and very loose to medium dense, and temporary, dewatered excavations in those materials will likely need to be inclined at inclinations on the order 2-1/2h:1v or flatter. Therefore, we recommend that provisions for shoring be considered in the project specifications. The contractor should be responsible for the selection and design of the shoring system used for the project.

6.5.2.3 Overexcavation and Recompaction/Replacement

Following the verification that the groundwater level has been suitably lowered, the overexcavation work can commence. Existing buildings, pavements, other improvements, and vegetation should be removed from the site and properly disposed of off-site. The overexcavation limits should extend at least 15 feet beyond the proposed building limits.

Because the soils within the limits of the overexcavation are relatively soft and loose, overexcavation work will likely need to be performed using track-mounted excavating equipment. The excavation bottom should be cut neat and material disturbed from the excavation process removed from the excavation bottom.

The excavation bottom will likely be soft and yielding and stabilization of the subgrade will likely be required. Subgrade stabilization can likely be achieved using float rock in combination with geotextile fabric. Float rock should be worked into the excavation bottom to achieve a stable subgrade condition. The thickness of float rock required could potentially vary from 1 to 5 feet or more, depending on the actual subgrade conditions. A layer of geotextile fabric should be placed to fully enclose the top surface of the float rock.

Following stabilization of the excavation subgrade, compacted on-site or import fill materials can be placed to the proposed pad elevations. Compacted fill should be placed and compacted as described in Section 6.3.

In our opinion, if the upper very loose to loose granular soils and soft compressible cohesive soils are overexcavated and replaced with compacted fill, the proposed structures

can be supported on shallow foundations and slabs-on-grade. Foundation design recommendations for shallow foundations and slabs-on-grade are provided in Section 6.6.1 of this report.

6.5.3 Surcharging and Pile Foundations

If the proposed structures are supported on driven piles and structural slabs, an extensive overexcavation program should not be required. The existing soils within the building area and to a distance of about 10 feet beyond the building limits should be overexcavated to a depth of about 5 feet below the existing ground surface or to a depth of 12 inches above the groundwater level, whichever results in the shallower excavation depth. The soils within the overexcavation limits will likely be relatively soft, loose, and very moist. As a result, we recommend that overexcavation work be performed using track-mounted excavation equipment. The excavation bottom will likely be soft and yielding and subgrade stabilization measures will likely be required. Stabilization of the subgrade can likely be achieved using float rock alone or in combination with geotextile fabric. Following stabilization of the subgrade, on-site or import fill can be placed and compacted to the desired site grade.

We recommend that the building areas be surcharged prior to the installation of piles to reduce the potential for local settlement of exterior improvements and utilities relative to the proposed building foundation. The surcharge should be at least 6 feet high relative to the proposed finished site grade. The side slopes of the surcharge fill should be inclined at 2h:1v or flatter. The surcharge should occupy the building area and extend a distance of at least 15 feet beyond the building footprint (not including the side slope areas). Surcharge fill should be compacted to at least 85 percent relative compaction.

We expect that settlements resulting from the surcharge will likely vary up to about 3 inches and that about 95 percent of the surcharge-induced settlement should occur within about 2 to 4 months after surcharge placement. We recommend that settlement monitoring be performed to track the progress of the surcharge and to aid in determining when the surcharge can be removed. Foundation piles can be driven after the surcharge has been removed. Recommendations for the design of driven piles are provided in Section 6.6.3 of this report.

6.5.4 Stone Columns and Surcharging

6.5.4.1 Area Limits and Column Design

The area treated with stone columns should extend a minimum of 25 feet beyond the footprints of the proposed buildings. The columns in the eastern portion of the site (east of about CPT-5) should be designed to extend vertically to a depth of about 40 feet

below the existing ground surface, approximately -25 feet MSL. The columns in the western portion of the site (west of about CPT-5) should extend to a depth of about 25 feet below the existing ground surface, approximately 10 feet MSL. The tops of the stone columns should be no deeper than about 4 feet below the existing ground surface. If practical refusal to penetration is met at shallower depths, the columns can be constructed from a shallower depth upon review by Fugro.

The spacing of the stone columns should not exceed 8 feet center to center and the columns should be at least 36 inches in diameter. The axis of the stone columns should be inclined no more than 5 percent from the vertical.

We recommend that the stone columns be constructed using the vibro-displacement (dry, bottom-feet) method. The depth vibrator should be capable of generating at least 150 horsepower (hp) and 15 tons of force. Water jets can be used to aid the advance of the vibrator and assist the installation of the stone columns provided that the water used in the operation does not compromise the stability of the working surface or impact off-site property.

After advancing the depth vibrator to the full treatment depth, stone columns should be constructed in increments as the vibrator is slowly retrieved and stone column-backfill is placed. A maximum lift thickness of 4 feet should be used to construct the stone column. The depth vibrator should be re-advanced through each lift into the previously treated depth interval. Column construction and the amperage of the vibrator should be monitored during backfilling.

We recommend that the stone column cinstallation provide the following minimum average post-treatment tip resistances (q'c) presented below. The recommended treatment should be provided within each granular soil layer penetrated that is greater than 2 feet in thickness.

Fines Content (%)	Minimum Average CPT Tip Resistance (q'c) in tsf
<10	160
10-15	155
15-25	125
>25	90

Post-stone column treatment should be evaluated on the basis of CPT soundings and borings performed at the center of the stone column-grid The project specifications should provide for evaluation during construction, and for varying the column spacing and/or diameters to provide a greater level of compaction, if needed. Fines content may preliminarily be estimated using correlations from CPT tip resistances and friction ratio together with fines content data acquired from this study. The fines content used to in the

evaluation should be estimated from sieve analyses performed on selected samples obtained from drill holes.

For the purposes of evaluating the conformance of treatment with stone columns, average increases in relative density within the soil layers should be considered. Consideration should be given to average increases within similar layers interpolated between drill holes as well as average increases in relative density within the granular soil layers encountered over the entire site. The evaluation should also consider the significance of the improvement, relative to providing foundation support for the proposed structures, within silty soil layers (greater that 15 percent fines) that show improvement but do not necessarily provide the minimum specified penetration resistance. At least one CPT sounding should be performed for each 10,000 square feet of treated area.

6.5.4.2 Grading and Surcharging Following Stone Column Construction

After treatment of the building areas using stone columns, we recommend that the existing soils within the building area and to a distance of about 10 feet beyond the building limits should be overexcavated to a depth of about 5 feet below the existing ground surface or to a depth of 12 inches above the groundwater level, whichever results in the shallower excavation depth.

The soils within the overexcavation limits will likely be relatively soft, loose, and very moist. As a result, we recommend that overexcavation work be performed using track-mounted excavation equipment. The tops of the stone columns should be exposed in the excavation bottom. Following overexcavation of the upper soil materials, we recommend that the stone columns be capped with a 2-foot-thick gravel blanket consisting of crushed stone meeting the requirements of stone column backfill. The crushed stone should be placed in three 8-inch lifts and compacted with 3 passes of a 8^{+}- ton smooth drum roller. A layer of filter fabric should be placed over the gravel blanket and on-site or import fill material be placed to the desired grade.

In addition to the improvement to the subsurface conditions achieved by the construction of stone columns, we recommend that the proposed building areas be surcharged as described in Section 6.5.3. However, we anticipate that the settlements induced by the surcharge should be reduced by up to about 50 percent. The anticipated surcharge waiting period will likely be significantly less than that estimated for the condition without the presence of the stone columns. Monitoring should be performed to aid in the determination of the end of the surcharge waiting period.

If these measures are implemented, we anticipate that the foundation systems for the proposed structures can consist of shallow foundations and slabs-on-grade. Recommendations for shallow foundations and slabs-on-grade are provided in Section 6.6.1

6.6 FOUNDATION DESIGN

6.6.1 Shallow Foundations

In our opinion the proposed buildings can be supported on spread footings provided the upper 20 feet of the existing soft, compressible, and potentially liquefiable soils are overexcavated, or the building areas are treated with ground improvement using stone columns and surcharged. For use in the design of shallow foundations, we recommend a maximum allowable bearing pressure of 2,000 psf be used for the design of foundations underlain by compacted fill prepared in accordance with Sections 6.3 and 6.5.2 or compacted fill in-turn underlain by stone column-improved ground. The maximum allowable bearing pressure can be increased by one-third when considering short term wind or seismic loads.

Continuous and isolated footings should be designed with a least dimension of 2 feet and 3 feet, respectively. Footings should be embedded at least 2 feet below the lowest adjacent grade or finished slab elevation, whichever is deeper. Continuous footings or grade beams, if planned, should be bottomed at a depth of at least 2 feet below the adjacent outside grade. Such footings should be considered beneath glass or open areas in exterior walls. The purpose of the perimeter foundation would be to provide a moisture barrier along the perimeter of the building and to resist possible differential movements such as due to the settlement of isolated columns within the wall.

Reinforcement for foundations should be designated by the project structural engineer based on the expected loading conditions.

6.6.2.1 Estimated Foundation Settlements

We estimate that the total settlements of spread footings will generally be about 1-inch where the footings are supported on a thick blanket of compacted fill (15 feet or more in thickness) or supported on stone column-improved ground and surcharged. We estimate that differential settlements could be on the order of ½ to ¾ inch between similarly loaded spread footings.

6.6.2.2 Resistance to Lateral Loads

Resistance to lateral loading can be provided by sliding friction acting on the base of spread footings or slabs combined with passive pressure acting on the sides of foundations or grade beams. We recommend a coefficient of friction of 0.35 for resistance

to lateral forces bearing in compacted soils. For footings founded on relatively level ground, we recommend using a passive resistance of 350 pounds per cubic foot, equivalent fluid weight. Passive resistance should not be used for the upper one foot of soil that is not constrained at the ground surface by a slab-on-grade or pavement. A one-third increase in the passive resistance value can be used when considering short-term wind or seismic loads.

6.6.3 Pile Foundations

The proposed structures can be supported on driven prestressed concrete piles provided the site is graded and surcharged as described in Section 6.5.3. The allowable capacity for piles driven to a specified penetration depth will vary across the site. The variability results from the presence of a relatively dense granular layer of older alluvium layer in the western portion of the site at a depth of about 20 feet and the significant thickness of alluvium (about 50 feet) present in the eastern portion of the project site. Predrilling may be required to achieve pile penetrations in excess of about 25 to 30 feet in the western portion of the site due to the presence of dense granular older alluvium.

The range of estimated allowable pile capacities for a 12-inch square prestressed concrete pile is provided on Plate 4 - Axial Pile Capacity. For preliminary design, recommended allowable pile capacities for piles driven in the western and eastern portions of the site are provided. For the purposes of estimating required pile lengths, the western portion of the site can be considered that portion west of about CPT-5. The eastern portion of the site should be considered as that portion east of about the location of CPT-5. Additional evaluation may be required to determine the required pile lengths in the pile-length transition. Therefore, we recommend that Fugro review the selected pile lengths prior to final design.

The estimated range in allowable pile capacities provided on Plate 4 are for a single pile or for pile groups with spacings of 3 pile diameters or greater.

Estimated downdrag loads due to soil liquefaction are anticipated to result in a temporary reduction in axial capacity. The temporary reduction in axial pile capacity is not anticipated to result in a temporary factor of safety less than about 1.5. However, because there is a potential for downdrag loads to result in a temporary reduction in pile capacity, we do not recommend that the estimated axial pile capacities provided on Plate 4 be increased for seismic loading conditions. The capacities can, however, be increased for temporary wind loading conditions.

6.6.3.1 Settlement

The total settlements of proposed prestressed concrete piles designed in accordance with the pile capacity design information provided on Plate 4 are estimated to be less than about 1/2 inch.

6.6.3.2 Lateral Capacity

The lateral capacity of driven concrete piles was estimated using the computer program LPILE (Ensoft 1985) using a p-y method of analysis. Using LPILE, we estimated the horizontal shear force applied to the head of the pile that would result in an equivalent 1/4-inch horizontal deflection of the pile head. Lateral pile capacities were estimated for static, free- and fixed-head conditions.

No factor of safety has been applied to the estimated loads and the lateral capacity does not account for eccentricity of vertical loads at he 1/4-inch deflection. The depth of fixity was estimated as the depth below the ground line corresponding to a point of approximately zero lateral deflection. The moment of inertia was assumed to be one-half of the gross section and the modulus of elasticity of plain concrete was used in the analyses.

Our estimated lateral capacity, maximum bending moment, and depth of fixity was estimated for 12-inch prestressed concrete piles. Our recommendations for laterally loaded piles are listed below:

Pile Head Condition	Lateral Capacity	Maximum Moment	Depth of Fixity
Free Head	5 kips	18.4 ft-kips	7.5 ft
Fixed Head	10 kips	32 ft-kips	7.5 ft

6.6.3.3 Pile Driving Considerations

Piles should be driven and installed to the required penetration(s) in accordance with Section 49 of the Caltrans Standard Specifications (Caltrans 1995a). Because the site conditions are variable and because a significant number of piles may need to be driven for the proposed project, we recommend that a test pile driving program be performed prior to ordering the production piles to evaluate the effects of the site conditions, to aid in developing a driving criteria, to assess the selected pile hammer/driving system, and to better evaluate the variability in the pile length(s) required for the project. The contractor should be responsible for selecting the equipment to be used for pile driving.

6.7 SEISMIC DESIGN

Based on the Uniform Building Code (ICBO 1997), the site is located in Seismic Zone 4 with a soil profile type S_E, a seismic source type B, and a near source factor (N_a) of 1.3. If the upper 20 feet of the existing soil materials are overexcavated of if the building area is treated with stone columns, we would expect that the soil profile type would be changed from type S_E to type S_D . Based on the Uniform Building Code (ICBO 1994), the site is located in Seismic Zone 4 with a site coefficient (S) of 1.5. It is our opinion, that, at a minimum, proposed structures should be designed according to the Uniform Building Code standards for Seismic Zone 4, or the current building code standards at the time of design.

6.8 SLAB-ON-GRADE

Floor slabs can be designed as slabs-on-grade provided the site is improved by performing the recommended overexcavation and recompaction/replacement of the upper 20 feet of the existing soil materials or if the building areas are treated with stone columns and surcharged. Concrete slabs-on-grade in building areas should be supported on compacted on-site fill of import fill placed and prepared according to Section 6.2. We also recommend that the floor slab be a minimum of 5 inches thick and reinforced with at least Number 4 reinforcing bars placed 24 inches on centers both ways. Reinforcing should be doweled into footings and grade beams to reduce the potential for localized differential settlement to cause cracking of the floor slab adjacent to footing areas. Additional reinforcement should be provided as recommended by the structural engineer.

A vapor retarder should be provided below the slabs with floor coverings to reduce the potential for moisture to migrate from the soils up to the slab. The vapor retarder should consist of 2 inches of granular material, overlain by a visqueen membrane and an additional 2 inches of granular material.

6.9 PAVEMENT DESIGN

One R-value test was performed on a selected samples of the near surface soils to aid in the design of proposed asphalt pavements. The measured R-value was 35 for the sample tested. Recommended preliminary pavement sections for a range of traffic indices (TI's) are provided below. Those pavement sections were calculated using Caltrans design procedures (Caltrans 1995b) for an R-value of 35 (on-site soils). Because pavement subgrade will likely consist of import fill, we have provided additional pavement design recommendaitons assuming an R-value of 15 for import fill. Recommendations for final pavement design should be based on R-value tests performed on samples of the actual subgrade soils exposed at the completion of rough grading.

Table 2 - Structural Section Recommendations

R-Value =35

Traffic Index	Thickness of Asphalt Concrete (AC)	Thickness of Aggregate Base (AB)
4.0	0.25 ft.	0.33 ft
5.0	0.25 ft.	0.40 ft
6.0	0.25 ft.	0.65 ft

R-Value =15

Traffic Index	Thickness of Asphalt Concrete (AC)	Thickness of Aggregate Base (AB)
4.0	0.25 ft.	0.45 ft.
5.0	0.25 ft.	0.70 ft.
6.0	0.25 ft.	1.0 ft.

Pavement sections should be placed on a subgrade prepared according to our recommendations in Section 6.4. Pavement materials should conform to our recommendations presented in Section 6.2. The upper 1 foot of the subgrade, and the pavement materials, should be compacted to at least 95 percent relative compaction.

6.10 UTILITY TRENCHES AND SHALLOW EXCAVATIONS

Temporary excavations less than 5 feet in height will encounter loose to very loose granular soils and soft to medium stiff cohesive soils. Groundwater will likely be encountered at a depth of about 5 feet. Therefore, we recommend that temporary excavations for utilities be less than about 4 feet deep and that excavation sidewalls be inclined at 1:1 or flatter. Excavations exceeding about 4 feet should be shored in accordance with (Cal) OSHA standards and if necessary, dewatered. The ground surface adjacent to temporary excavations should be graded to drain surface water away from the top of the excavation. Surface water should not be allowed to flow into excavations or over temporary slopes. The maintenance and safety of temporary excavations will be the contractor's responsibility.

Excavation of utility trenches can likely be accomplished with a backhoe. Utility trench backfill should be governed by the provisions of this report relating to minimum compaction recommendations. In general, backfill for service lines extending inside of the project area should be compacted to at least 90 percent relative compaction and 95 percent relative compaction in building and pavement areas.

6.11 DRAINAGE CONTROL

Site grading should be such that positive drainage away from foundations and slabs is provided. Water should not be allowed to pond near the structures, pavements or run over slopes. We recommend that roof gutters or drainage systems be installed to collect roof water and to carry the water away from the foundations. Surface drainage swales should be positioned to allow for rapid removal of rain and irrigation water away from the foundations. In planter areas, deepened curb edges or moisture retarders should be provided to reduce the potential for irrigation water to infiltrate subgrade soils below slabs and pavements. Landscaping adjacent to structures should be minimized and drought-tolerant plants should be used.

6.12 CORROSIVITY

Laboratory tests were performed on a selected soil sample of the near-surface materials. Results of pH, soluble chloride, soluble sulfate, and resistivity tests are presented in Appendix B. The design of subsurface utilities should consider the results of corrosivity tests as they apply to the proposed construction. On the basis of the available chemical data, it appears that sulfate andchloride contents are relatively low (less than 100 ppm) and according to ACI 318-89, Type II cement can be used for concrete that will be in contact with the on-site soil materials. In addition, on the basis of the resistivity data (measured resistivity of 3,900 ohms/cm), it appears that the near-surface soils have a low to moderate potential for corrosion to ferrous metals. We recommend that the chemical data be reviewed by a corrosion engineer before final design.

6.13 ADDITIONAL SERVICES

The design and construction phases of the project involve a continuation of the geotechnical evaluation and observation of site conditions that are needed to confirm the recommendations of this report. The responsible geotechnical engineer must, in order to provide this continued service, render interpretations, and respond to additional information, observe the contractor's implementation of design. More details regarding the proposed development should be provided when they become available, such as structural loads, building types, and the proposed site grading. Modifications to the recommendations presented herein may be necessary when more detailed plans for the proposed development have been prepared.

6.13.1 Plan Review

We recommend that Fugro provide a general review of the final grading, improvement, and foundation plans. The purpose of this review is to assess general compliance with the earthwork and foundation recommendations of this report, and to

confirm that the recommendations given in this report are incorporated in the project design plans and specifications.

6.13.2 Observation and Testing

We further recommend that Fugro provide services during the grading, excavation, and foundation phases of the work. The purpose of these services is to observe compliance with the initial development concept, the specifications, and the geotechnical recommendations. The observation and testing services will allow for changes in the recommendations in the event that subsurface conditions differ from those anticipated prior to construction.

7.0 CLOSURE

Fugro prepared the conclusions and professional opinions presented in this report according to generally accepted geotechnical engineering principles and practices at the time and location this report was prepared. This statement is in lieu of all warranties, expressed or implied.

This report has been prepared for the exclusive use of Bermant Development Corporation and their authorized agents for the proposed Santa Barbara Gateway Center project. It may not contain sufficient information for other parties or other uses. If any changes are made in the project, as described in this report, the conclusions and recommendations contained in this report should not be considered valid. Fugro should review any changes in the project, and modify and approve in writing the conclusions and recommendations of this report. This report and the drawings contained in this report are intended for design-input purposes; they are not intended to act as construction drawings or specifications.

Soil and rock deposits vary in type, strength, and other geotechnical properties between points of observations and exploration. Additionally, groundwater and soil moisture conditions also can vary seasonally or for other reasons. Therefore, we do not and cannot have a complete knowledge of the subsurface conditions underlying the site. The conclusions and recommendations presented in this report are based upon the findings at the points of exploration, interpolation and extrapolation of information between and beyond the points of observation, and are subject to confirmation based on the conditions revealed by construction.

END OF TEXT

8.0 REFERENCES

ACI 318-89 (1989), "Building Code Requirements for Reinforced Concrete", American Concrete Institute.

Blake, T. F, (1995a),"EQFAULT, A Computer Program for the Deterministic Prediction of Peak Horizontal Ground Acceleration from Digitized California Faults", Version 2.02, Users Manual, 79 pp.

Blake, T. F, (1995b), "FRISKSP - A Computer Program for the Probabilistic Estimation of Peak Acceleration and uniform Hazard Spectra Using 3-D Faults as Earthquake Sources", Version 2.02, Users Manual, 79 pp.

Blake, T. F, (1995c), "EQSEARCH, A Computer Program for the Estimation of Peak Horizontal Acceleration from California Historical Earthquake Catalogs", Version 2.02.

Boore, D.M., Joyner, W.B., and Fumal, T.E. (1993), "Estimation of Response Spectra and Peak Accelerations From Western North American Earthquakes: An Interim Report", U.S. Geological Survey Open-File Report 93-509, 15 pp.

Caltrans (1995a), "Standard Specifications" State of California, Business, Transportation and Housing Agency, Issued by the Department of Transportation.

Caltrans (1995b), "Highway Design Manual", Fifth Edition, California Department of Transportation.

Corbett, E.J., and Johnson, C.E. (1981), The Santa Barbara Earthquake of August 13, 1978, California Institute of Technology.

Dibblee, T.W. (1966), Geologic Map of the Goleta Quadrangle, updated in 1987 as the Dibblee Foundation Map #DF-07.

Ensoft (1985), Douumentation for the Compute rProgram LPILE.

Flowers and Associates (1997), "Topographic Mapping, Santa Barbara Airport Property North of Hollister Avenue, plotted February 14.

Hill, M.L. (1932), "Mechanics of Faulting Near Santa Barbara, California," Journal of Geology, V. 40, No. 6, p. 535-556.

Houston, J.R., and Garcia, A.W. (1978), Type 16 Flood Insurance Study: Tsunami Predictions for the West Coast of the Continental United States: U.S. Army Engineer Waterways Experiment Station Hydraulics Laboratory, P.O. Box 631, Vicksburg, Mississippi, 39180.

International Conference of Building Officials (ICBO) (1994), "Uniform Building Code."

International Conference of Building Officials (ICBO) (1997), "Uniform Building Code."

Lee, W.H.K., Johnson, C.E., Heney, T.L., and Yerkes, R.L. (1978), A Preliminary Study of the Santa Barbara, California Earthquake of August 13, 1978 and its major aftershocks: U.S. Geological Survey Circular 797, 11 p.

Moore & Taber (1974), Seismic Safety Element, Santa Barbara County Comprehensive Plan, 93 p.

Olsen, P.G., and Sylvester, A.G. (1975), The Santa Barbara Earthquake Swarm in the Santa Barbara Channel, California, 1969, Seismological Society of America Bulletin, Vol. 60, No. 4, p. 1047-1060.

Olson, Daniel J., (1982), "Surface and Subsurface Geology of the Santa Barbara Goleta Metropolitan Area, Santa Barbara County, California," M.S. thesis, Oregon State University, Corvalis, Oregon, October 8, p. 71.

Tokimatsu, K. and Seed, H. B. (1987): "Evaluation of Settlements in Sands Due to Earthquake Shaking," Journal of ASCE, Vol. 113, GT8, 99. 861-878.

Youd, L., Stokoe, K.H., Robertson, P.K., Finn, W.D.L., and Byrne, P.M. (1996), "A Symposium on Recent Developments in Seismic Liquefaciton Assessment", proceedings, Vancover BC, April 12.

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October 13, 1998

1700-01

Mr. Andrew Bermant
Bermant Development Company
5383 Hollister Avenue, Suite 150
Santa Barbara, CA 93111

Project: *Santa Barbara Gateway Center Project*
Re: *Noise Analysis*

Dear Mr. Bermant:

This report evaluates the noise that would be associated with the proposed Gateway Center project located in the City of Santa Barbara. The site is located at the northwest intersection of Hollister Avenue and Lopez Road. Current land uses on the property include light industrial and commercial uses. The site is surrounded by a theater, industrial uses, commercial uses and undeveloped land. Noise-sensitive uses are not located adjacent to the site. The closest noise sensitive receivers are residences located approximately 1,300 feet north of the site across Highway 101, and approximately 2,500 feet east of the site.

The project proposes to construct approximately 80,000 square feet of research and development space, 80,000 square feet of executive office space and 20,000 square feet of retail space.

1.0 BACKGROUND

The primary noise source adjacent to the project site is vehicular traffic along Hollister Avenue. In addition, the site is also affected by aircraft noise from Santa Barbara Municipal Airport located south of the site. Highway 101 and the Southern Pacific Railroad are located approximately 1,100 and 900 feet north of the site, respectively. The current traffic volume along Hollister Avenue adjacent to the project site is 19,000 Average Daily Trips (ADT) at Love Place and 23,300 ADT east of Lopez Road (ATE 1998a). The traffic volumes along Lopez Road and Love Place adjacent to the project site are 2,800 ADT and 2,010 ADT, respectively (ATE 1998b).

1.1 City Noise Criteria

The City of Santa Barbara defines community noise levels in terms of either the day-night average noise level (L_{dn}) or the Community Noise Equivalent Level (CNEL). L_{dn} is a 24-hour average equivalent A-weighted sound level with a ten decibel (dB) "penalty" added to noise during the hours of 10:00 p.m. to 7:00 a.m. The ten dB penalty is applied to account for increased noise sensitivity during the nighttime hours. CNEL is identical to L_{dn} except that a five dB penalty is applied to the noise level during the evening hours (i.e., 7:00 p.m. to 10:00 p.m.). The CNEL and L_{dn} values are typically within one dB of each other and are usually considered equivalent. Attachment 1 contains definitions of acoustical terms used in this report. All sound levels in this report are reported as A-weighted sound levels.

EXHIBIT 5

The City has established noise guidelines in the Noise Element of the City's General Plan. These guidelines identify compatible exterior noise levels for various land use types. Outdoor noise consists of various sources. Examples include transportation sources, construction activities, mechanical equipment, barking dogs and landscape maintenance activities. The City's Noise Element states that the emphasis of the Noise Element is on evaluating and planning for transportation noise. A summary of the City's normally acceptable exterior noise level criteria are depicted in *Table 1*. The proposed uses at the site are research and development, office space and retail. Office buildings are subject to a maximum acceptable exterior noise level of 75 dB L_{dn}. The City's Noise Element does not contain a specific category for research and development uses. However, this use is similar to a professional office building, thus, the maximum acceptable exterior noise level would be 75 dB L_{dn}. The maximum acceptable exterior noise level for the adjacent park use is 65 dB L_{dn}.

Table 1
Summary Land Use ◆ Compatibility Standards

Land Use Category	Normally Acceptable Exterior Noise Exposure, L_{dn} dB
Residential– Single Family, Duplex, Mobile Homes, Multiple Family, Dormitories, etc.	60
Transient Lodging	70
School Classrooms, Libraries, Churches	65
Hospitals, Nursing Homes	65
Auditoriums, Concert Halls, Music Shells	60
Sports Arenas, Outdoor Spectator Sports	65
Playgrounds, Neighborhood Parks	65
Golf Courses, Riding Stables, Water Recreation, Cemeteries	70
Office Buildings, Personal, Business, and Professional	75
Commercial – Retail, Movie Theaters, Restaurants	75
Commercial – Wholesale, Some Retail Industry, Manufacturing, Utilities	80
Manufacturing – Communications (Noise sensitive)	70
Livestock Farming, Animal Breeding	75
Agriculture (except livestock), Mining, Fishing	95
Public Right-of-Way	85
Extensive Natural Recreation Areas	75

2.0 IMPACT ANALYSIS

Noise associated with the project would include short-term construction noise and long-term increased traffic noise on adjacent roads, primarily Hollister Avenue. The site is also subject to noise from aircraft operations associated with Santa Barbara Municipal Airport.

Highway 101 is located approximately 1,100 feet north of the site. The current traffic volume along Highway 101 is approximately 62,000 ADT (Caltrans 1998). With this traffic volume, the L_{dn} would be approximately 76 dB at a distance of 100 feet. At 1,100 feet the traffic noise would be approximately 60 dB L_{dn}. This does not account for shielding from the intervening buildings or atmospheric attenuation that would attenuate the noise by an additional 5 to 15 dB or more. Thus, due to the distance and the intervening buildings, the noise associated with Highway 101 is less than significant. The Southern Pacific Railroad is located approximately 900 feet north of the site. According to the Santa Barbara Airport Commercial/Industrial Plan, the 60 dB L_{dn} noise contour is approximately 475 feet from the center of the tracks (City of Santa Barbara, 1997). Thus, noise associated with the railroad at the project site is less than significant.

2.1 Construction Noise

Noise generated by construction equipment on this project would occur with varying intensities and durations during the different phases of construction including demolition of the existing buildings, grading, paving and construction of the buildings.

Equipment expected to be used would include tractors, backhoes, graders, pavers, heavy trucks and other related equipment. Construction noise is difficult to quantify because of the many variables involved including the size of equipment used, percentage of time and number of pieces of equipment which will actually operate on the site. However, maximum noise levels at 50 feet range from approximately 75 to 90 dB for the type of equipment normally used in a project such as this. The hourly average noise levels would vary, but construction noise levels of approximately 75 to 80 dB at 50 feet are typical.

The developed areas adjacent to the site are commercial and industrial. These uses are not noise sensitive and would be subject to less than significant noise impacts associated with the short-term construction noise. There are no noise-sensitive land uses that would be adversely impacted by the short-term construction noise. The closest residences are located north of the site and north of Highway 101 approximately 1,300 feet from the site. Construction noise is attenuated by approximately 6 dB for every doubling of distance. Assuming no shielding from intervening barriers or buildings, or atmospheric attenuation, the maximum noise levels would range from approximately 47 to 62 dB at the nearest residence. The hourly average noise level would range from approximately 47 to 52 dB. Noise levels associated with the construction activities at these residences would be substantially masked by Highway 101 traffic noise. Short-term noise impacts associated with construction activities would be less than significant.

A movie theater building is located immediately east of the site adjacent to Lopez Road, approximately 165 feet from the site. As previously indicated construction noise attenuates at a rate of approximately 6 dB for every doubling of distance. Thus, the construction equipment operating along the eastern portion of the project site, adjacent to Lopez Road, would generate an hourly average noise level of up to approximately 65 to 70 dB. Noise associated with the construction activity would be less than significant at the movie theater.

2.2 Traffic Noise

◆ Onsite Traffic Noise Impacts

The existing and existing plus project noise level along Hollister Avenue were calculated using the California Department of Transportations' SOUND32 Traffic Noise Prediction Model (Caltrans 1983) with California noise emission factors. The project's closest building to Hollister Avenue would be located approximately 100 feet from the center line of the road. At this distance, the existing plus project L_{dn} would be approximately 67 dB. This noise level would comply with the City's noise guidelines.

The existing plus project traffic volume would result in a L_{dn} of less than 60 dB along Love Place. This noise level would comply with the City's noise guidelines.

◆ Offsite Traffic Noise Impacts

The project would generate approximately 2,349 net average daily trips. The project generated traffic would increase the traffic volume on several existing roads including Hollister Avenue. With the project, the traffic volume along Hollister Avenue would range from approximately 19,588 at Love Place and 24,946 ADT east of Lopez Road (ATE 1998).

With implementation of the proposed project, the noise level along Hollister Avenue would increase by less than 0.5 dB as compared to the existing noise level. This noise level increase is not significant.
Robert Park/Love Commons is located near the southeast corner of Love Place and Botello Road. The "normally acceptable" exterior noise level exposure for parks is 65 dB L_{dn}. The park would be located approximately 440 feet from Hollister Avenue. The existing plus project noise level associated with the traffic on the adjacent roads would be approximately 60 dB L_{dn} at the park site. This noise level would comply with the City's noise guidelines.

2.3 Santa Barbara Municipal Airport

The project site is located approximately 1,200 feet north of the Santa Barbara Municipal Airport. Aircraft utilizing the airport include commuter turboprop planes, commercial and corporate jets, general aviation propeller aircraft as well as helicopters. The Santa Barbara Airport Commercial/ Industrial Specific Plan identifies noise levels associated with the aircraft operations from Santa Barbara Municipal Airport (City of Santa Barbara 1997). As shown in *Figure 1*, the site is exposed to a CNEL of 60 dB or less as a result of

aircraft operations from Santa Barbara Municipal Airport. This noise level would be compatible with the proposed research and development, office, retail, and park uses.

2.4 On-Site Noise

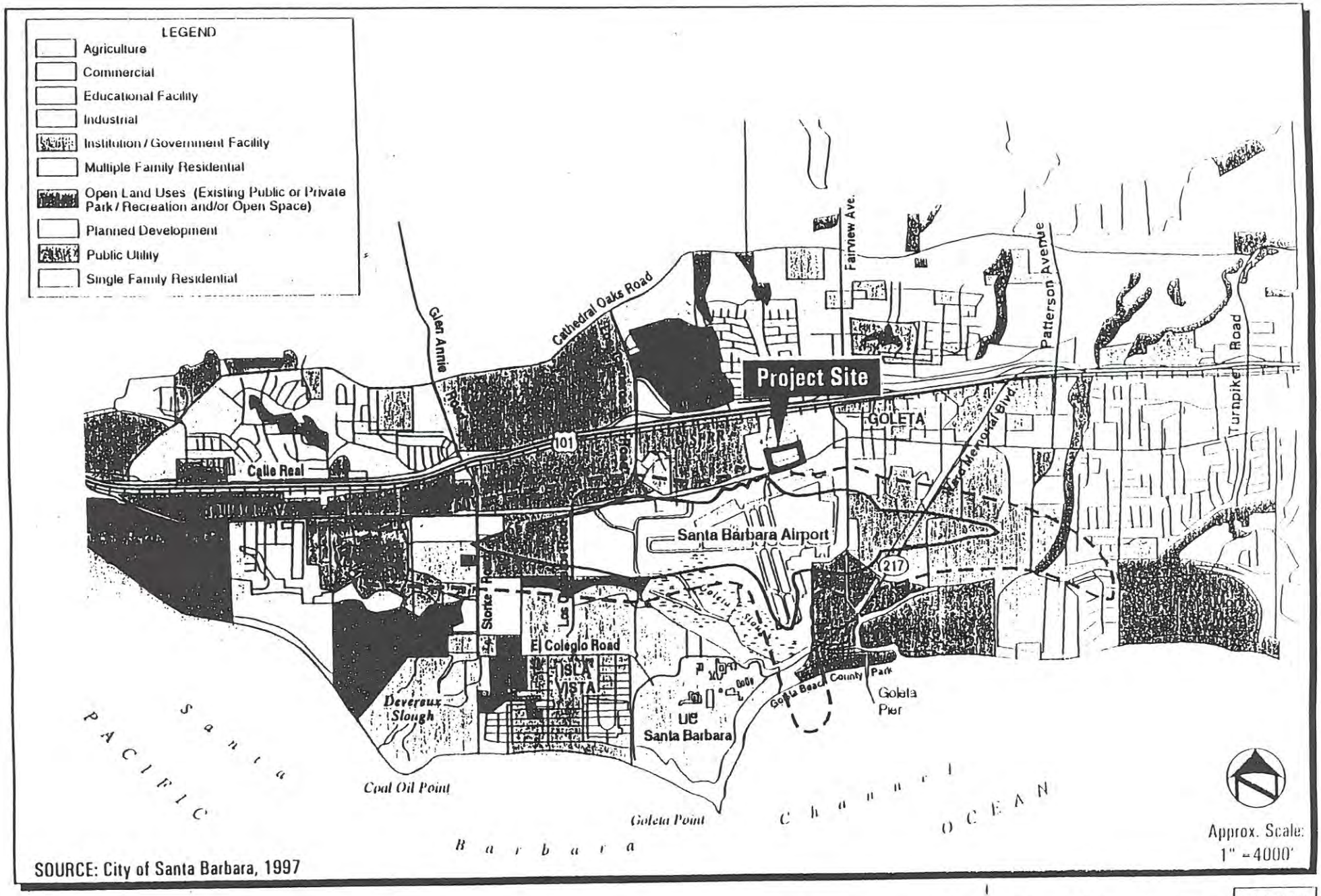
The proposed project would generate on-site noise associated with vehicles in the parking lot, and delivery truck loading and unloading activities. Based on noise measurements that we have conducted of delivery truck loading dock activities, loading dock noise results in average hourly noise levels of approximately 50 to 55 dB at a distance of 100 feet from the loading area. Noise sensitive receivers are not located adjacent to the project site. Thus, on-site noise impacts would not be significant for noise sensitive receivers.

The existing theater building would be located approximately 500 feet from the nearest loading dock area. Also, the theater would be screened from the loading dock area by one of the project's proposed buildings. The average hourly noise level associated with the loading dock activities would be 41 dB or less at the theater. This calculation does not include the noise attenuation associated with the intervening building. Noise associated with the loading dock activities would be less than significant at the theater building.

The proposed uses at the site include manufacturing and research. These types of uses may generate noise associated with various types of equipment within the buildings. It is expected that noise generated by these activities would be attenuated by the building shells and that sound transmission to the outside would not be significant. Similarly, noise associated with proposed retail uses would be attenuated by the building shells and would not result in significant noise impacts.

3.0 MITIGATION MEASURES

The proposed project would not result in significant noise impacts, therefore, mitigation measures have not been proposed.



SOURCE: City of Santa Barbara, 1997

Gateway Center Master Plan - Noise Analysis

60 and 65 CNEL Noise Contours

FIGURE 1

This concludes our noise assessment. If you have any questions, please call me.

Very truly yours,

DUDEK & ASSOCIATES, Inc.

Samantha Ren for

Mike Komula
Acoustician

REFERENCES

Associated Transportation Engineers (ATE), February 25, 1998a. *Gateway Center Project Traffic Volumes*. Transmittal Data.

Associated Transportation Engineers (ATE), May 21, 1998b. *Gateway Center Project Traffic Volumes*. Transmittal Data.

California Department of Transportation (Caltrans), June 1983, *User's Instructions for SOUND32 (FHWA/CA/TL-83/06*.

Caltrans, 1987. *California Vehicle Noise Emission Levels*.

Caltrans, October 7, 1998. *Telephone Conversation with Traffic Counts Department*.

City of Santa Barbara, August, 1979. *City of Santa Barbara General Plan Noise Element*.

City of Santa Barbara, August, 1997. *Final Environmental Impact Report/Assessment for Santa Barbara Municipal Airport Industrial/Commercial Specific Plan*.

ATTACHMENT 1

DEFINITIONS

Term	Definition
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Day-Night Average Sound Level, L_{dn}	L_{dn} is the average equivalent A-weighted sound level during a 24-hour day. L_{dn} accounts for the increased noise sensitivity during the nighttime hours (10 p.m. to 7 a.m.) by adding ten dB to the sound levels at night.
Decibel, dB	A unit for measuring sound pressure level and is equal to 10 times the logarithm to the base 10 of the ratio of the measured sound pressure squared to a reference pressure, which is 20 micropascals.
Equivalent Noise Level, L_{eq}	The sound level corresponding to a steady state (Average Sound Level)sound level containing the same total energy as a time varying signal over a given sample period. L_{eq} is designed to average all of the loud and quiet sound levels occurring over a time period.
Maximum A-weighted Sound Level	The greatest sound level measured on a sound (L_{max}) level meter during a designated time interval or event.

ATTACHMENT 2

NOISE MODELING INPUT

Parameter	Hollister Avenue (at Love Place)	Hollister Avenue (e/o Lopez Road)
ADT (Existing)	19,000	23,300
ADT (Existing Plus Project)	19,588	24,946
Speed (mph)	45	45
Medium Truck Percentage	2	2
Heavy Truck Percentage	2	2
Median Width	18	18
Number of Lanes	4	4
Angle of View (degrees)	– 90/90	– 90/90
Center Line to Receiver Distance	50	50
Ldn @ 50' from C. L. (Existing)	72.3	73.2
Ldn @ 50' from C.L. (Existing Plus Project)	72.4	73.5

SOCIOECONOMIC IMPACT ANALYSIS FOR SANTA BARBARA GATEWAY CENTER PROJECT

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October 1998

EXHIBIT 6

I. INTRODUCTION

The intent of this report is to analyze the project-specific socioeconomic impacts associated with the proposed Santa Barbara Gateway Center Project, located at 6100 Hollister Avenue, in the Goleta area.[1] The proposed Santa Barbara Gateway Center Project site is within the Santa Barbara Municipal Airport Industrial/Commercial Specific Plan area. The Final Environmental Impact Report/Assessment (FEIR/A) for the Specific Plan examined the potential socioeconomic impacts from the Specific Plan developments, which includes replacement of up to 172,000 square feet of existing buildings and additions of up to 160,000 square feet of new industrial and commercial space. The FEIR/A reviewed employment, population, housing and school data and trends. The FEIR/A concluded that there would be no project-specific significant impacts (associated with build-out of the Specific Plan); however, cumulative impacts relating to school overcrowding would be significant and unavoidable. This report re-evaluates the socio-economic conditions as they relate specifically to development of the Santa Barbara Gateway Center Project.

The Santa Barbara Gateway Center Project proposes the demolition of 103,287 square feet of existing buildings and new development of 80,000 square feet of research and development (R&D), 80,000 square feet of executive office space, and 20,000 square feet of new retail commercial space (12,500 square feet of general retail and 7,500 square feet of restaurant space). Phase I of the project would entail the development of 80,000 square feet of office space, 60,000 square feet of R&D buildings, and 20,000 square feet of commercial space. Development of phase II is anticipated to begin three years after the completion of phase I, with the planned development of an additional 20,000 square feet of R&D industrial space.

II. EMPLOYMENT & POPULATION

The following table summarizes the historical and projected future employment trends to the year 2000 in the nine major employment sectors for Santa Barbara County. Between 1980 and 1985, growth rates ranged from a high of 5.36% in finance and real estate to 1.19% in the government sector. Between 1985 and 1990, economic growth continued in most sectors except for mining, which contracted by 5.59%, manufacturing (-1.29%), and transportation (-0.49). Economic growth rates declined in most sectors between 1990 and 1995. This was mainly attributable to the national economic downturn in the early 1990's and subsequent decreases in military spending. Defense-related cuts translated to a contraction in defense-related employment in Santa Barbara County[2].

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[1] A brief discussion, however, of cumulative impacts for some issue areas has been provided within this report in response to requests for additional information by City staff.

[2] "Goleta Valley Economic Outlook 1998"; UCSB Economic Forecast Project.

Table 1
Countywide Economic Growth By Sector (1980-2000)

Employment Sector	Total 1980	Growth Rate 1980-85	Total 1985	Growth Rate 1985-90	Total 1990	Growth Rate 1990-95	Total 1995	Growth Rate 1995-2000
Agriculture	7,400	3.53%	8,800	4.96%	11,208	0.20%	11,318	2.72%
Mining	1,500	1.30%	1,600	-5.59%	1,200	-1.99%	1,085	0.67%
Construction	5,000	4.40%	6,200	3.67%	7,425	-4.33%	5,950	3.92%
Manufacturing	16,800	6.94%	23,500	-1.29%	22,025	-2.42%	19,490	0.82%
Transportation	5,100	1.52%	5,500	-0.49%	5,367	0.13%	5,402	1.43%
Wholesale Trade	4.000	3.71%	4,800	2.98%	5,558	-1.21%	5,230	0.83%
Retail Trade	25,100	2.06%	27,800	1.19%	29,492	-0.89%	28,206	2.04%
Finance and Real Estate	5,700	5.36%	7,400	2.69%	8,450	-0.91%	8,071	0.80%
Services	32,900	1.65%	35,700	3.89%	43,208	0.59%	44,500	1.61%
Government	24,600	1.19%	26,100	2.36%	29,325	0.03%	29,370	1.55%

Source: Santa Barbara Association of Governments, "Regional Growth Forecast 94".

The principal industrial area of the Santa Barbara County south coast is located in Goleta Valley. High-technology manufacturing, including electronic, telecommunications, and medical device manufacturing industries, are the leading sectors of the local economy. Currently, the University of California Santa Barbara (UCSB) is the largest employer in the County with over 9,000 full and part-time employees. In 1996, more high-technology industrial sector jobs were created since 1989. By 1997, larger high-technology firms downsized and more high technology jobs were lost than created since 1991 in the County. However, the smaller high technology manufacturing firms are emerging as the more prominent employment sector in the County; medical devices, telecommunications, software, and computer manufacturing is expanding and generating more job opportunities[3]. Employment is projected to increase Countywide at an average annual rate of 1.6% from 1995 to 2000, with employment growth slowing to 1.2% from 2000 to 2005, 1.0% from 2005 to 2010, and 0.8% from 2010 to 2015[4].

According to the "Regional Growth Forecast '94", total population for Santa Barbara County was 369,608 in 1990. The total County-wide population is estimated to increase to 479,321 by the year 2015, an increase of approximately 30%. The North County cities are anticipated to experience the greatest

[3] "Goleta Valley Economic Outlook 1998"; UCSB Economic Forecast Project.
[4] "Regional Growth Forecast '94"; Santa Barbara Association of Governments.

Table 4
Housing Affordability for City of Santa Barbara

Family Size	Annual Income	Mortgage Payment @ 30%	Estimated Percentage of Project Workforce[15]	Estimated Demand for Affordable Housing
Moderate Income (120% of Median Income)				
1	$43,200	$1,080	25%	12.5
2	$49,350	$1,234		
3	$55,550	$1,389		
4	$61,700	$1,543		
5	$66,650	$1,666		
6	$71,550	$1,789		
			Total Affordable Housing Demand:	36 units

Source: City of Santa Barbara

Given that no formal lease agreements with future tenants have been executed, it is difficult to estimate the exact number of low-to-moderate income households that any one project will generate. One of the anticipated project tenants, however, graciously provided a list of anticipated employee categories and their corresponding income levels on behalf of the applicant (refer to the Appendix). This information was utilized in gauging the demand for affordable housing brought on by the project's development, particularly as they apply to Research & Development/Office uses. The table above is not considered to be fully applicable to the commercial/retail component of the project as it is anticipated that a majority of those workers would already reside within the Santa Barbara region and would not require new or additional housing.[16] The project, therefore, will create an affordable housing demand for 2.5 very-low income units, 0.5 high HOME units, 20.5 low-income units, and 12.5 moderate income units.

Due to the relatively small number of affordable housing units potentially required, the probability that in-migration would occur over a several year period, and the current trend for increased new residential developments, sufficient

[15] Based on the average household size of 2.41 individuals, as reported in the 1990 Census data.

[16] The employees from the commercial component of the project were, however, included when calculating total demand for affordable housing, consistent with the FEIR/A methodology. Thus, the total affordable housing demand figure is considered a conservative estimate.

housing should be available to the employees of this project. The proposed project is not anticipated to have any project-specific significant housing impacts.

However, it should be noted that Bermant Development Company will be providing 36 affordable rental units as part of the Storke Ranch Residential Project in the Goleta area. Once constructed, the affordable apartment units will be owned and managed by the People Self-Help Housing Corporation. Of the 36 affordable rental units, 28 units will be reserved for very low income tenants and 8 units will be reserved for low income tenants. To qualify for these rental units, a tenant's annual gross household income cannot exceed the maximum income levels permitted within the very low and low income categories established by the County of Santa Barbara[17]. See Table 5 below. The Gateway Center Project is anticipated to create an affordable housing demand for 23.5 very low to low income units (2.5 very low, 0.5 high HOME, and 20.5 low), which would be consistent with the income requirements for the Storke Ranch affordable units. The anticipated demand for 12.5 moderate income units can be absorbed by other residential development projects in the County which are required to provide housing units in the affordable range (under the County's inclusionary housing policies).

Table 5
Santa Barbara County Maximum Allowable Household Incomes for 1998

Person per Household	Very Low 0-50%	Low Above 50–80%	Lower Moderate Above 80-100%	Upper Moderate Above 100-120%
1	$ 18,000	28,800	36,000	43,200
2	$ 20,550	32,900	41,100	49,350
3	$ 23,150	37,000	46,250	55,550
4	$25,700	41,100	51,400	61,700
5 or more	$ 27,750	44,400	55,500	66,650

Source: County of Santa Barbara, Planning and Development Department

With respect to cumulative housing demands related to the project, the FEIR/A for the Santa Barbara Municipal Airport Industrial/Commercial Specific Plan states that cumulative projects would cause 191 individuals to in-migrate into the region, subsequently creating the demand for 51 affordable housing units.[18] Of these 51 affordable housing units, it is believed that the development of 20

[17] The County's maximum allowable household incomes for affordable housing is consistent with the City's guidelines for income levels.

[18] Cumulative impacts considered include those from the SBM Airport Specific Plan, the Aviation Facilities Plan, and the Cumulative Projects list (as identified within the Goleta Growth Management Ordinance Amendments, County of Santa Barbara, 1995).

affordable housing units could be necessitated within the City of Santa Barbara, 14 units in Goleta, 13 units elsewhere in Santa Barbara County, and 4 units outside of the County.[19]

Given these numbers, the affordable housing demand of the Santa Barbara Gateway Center Project would make up 70% of the total estimated cumulative demand for affordable housing (as calculated within SBM Airport Specific Plan). This demand, however, would not intensely compete with the demands created by other pending and approved projects for reasons of which are primarily related to the increasing supply of residential developments within Santa Barbara County and particularly the Goleta area. According to the Goleta Growth Management Ordinance (GGMO) Amendments Supplemental EIR (July 1995), there are approximately 2,062 residential units which have either been approved under the GGMO and/or are proposed. In addition, it is estimated that there are over 1,000 units in the affordable range of which have not been actively proposed or approved, but whose development potential exists. Therefore, because development of cumulative projects and the subsequent in-migration would realistically be spread out over a several year period and because of the current trend for increased new residential developments, sufficient housing (both affordable and market-based) should be available to the employees induced into the area. The proposed project is not anticipated to result in any cumulative significant housing impacts.

IV. PUBLIC SCHOOLS

The Goleta Union School District (GUSD) operates ten public elementary schools in the Goleta area. Nine of the ten schools are in full operation. The El Camino School was closed by the GUSD and leased by the Santa Barbara Christian School. The contractual agreement to use the school is no longer in effect and the GUSD plans to reopen El Camino School in May 1998 to temporarily house Isla Vista Elementary School students while Isla Vista Elementary School undergoes renovation. El Camino School would officially open in September 1999 to alleviate overcrowding in the other elementary schools. Enrollment in the GUSD has continued to increase from 1992 and the District has limited capacity within the existing schools to absorb additional students. Thus, the GUSD has proposed a plan to build another elementary campus in the western Goleta area within the next four to five years to accommodate the anticipated future development of new homes in western Goleta.

The following table indicates the current enrollment numbers for the individual schools within the Goleta Union School District and the corresponding capacity for each school. In all instances, the enrollment figures exceed the capacity because the school capacity has been calculated based on permanent structures (i.e., portables were not included in determining school capacity). Portable

[19] See Footnote 12 above.

classrooms and modular buildings are brought into schools to accommodate additional students. In some cases, the enrollment exceeds the school capacity due multiple sessions of certain grades (morning and afternoon classes for kindergartners).

Table 6
Goleta Union School District
Elementary School Enrollments and Capacities (1997-1998)

School	*Current Enrollment*	*Capacity **
Brandon	441	412
Ellwood	508	484
El Rancho	409	376
Foothill	542	372
Hollister	582	396
Isla Vista	514	480
Kellogg	459	380
La Patera	590	460
Mountain View	445	354

*Note * : Capacity is based on permanent facilities; portable classrooms were not included in determining capacity.*

Source: Goleta Union School District, Personal Communication, Dr. Richard Shelton, February 11, 1998.

The Santa Barbara School District operates 11 public elementary schools serving the City of Santa Barbara. The District also operates 4 junior high schools and 3 high schools serving the Santa Barbara and Goleta area. The following table summarizes current enrollment and the capacity for the schools in the Santa Barbara School District. As stated previously, total capacity for each school is based on capacity of the permanent structures. The Santa Barbara School District is also limited in its ability to absorb additional students at its current facilities.

Table 7
Santa Barbara School District
School Enrollments and Capacities (1997-1998)

School	*Current Enrollment*	*Capacity **
Adams Elementary	647	370
Cleveland Elementary	580	369
Franklin Elementary	780	516
Harding Elementary	590	537
McKinley Elementary	567	421
Monroe Elementary	584	499
Peabody Elementary	738	448
Roosevelt Elementary	572	592
Washington Elementary	602	352
Santa Barbara Charter	249	29
Open Alternative	201	216
Goleta Valley Junior High	848	858
La Colina Junior High	762	776
La Cumbre Junior High	1006	1049
Santa Barbara Junior High	753	801
Dos Pueblos High	1837	1629
San Marcos High	2002	1584
Santa Barbara High	2130	2016

*Note * : Capacity is based on permanent facilities; portable classrooms were not included in determining capacity.*

Source: Santa Barbara School District, February 1998.

The Hope Elementary School District operates three elementary schools—the Hope, Vieja Valley, and Monte Vista Schools. In the 1997-1998 school year, the Hope School facilitated the education of 245 students, while Vieja Valley and Monte Vista facilitated the education of 471 and 469 students respectively. School representatives have indicated that although they are witnessing increasing enrollments, they still have the ability to accommodate additional students from within their District and maintain an open enrollment policy.

The Cold Spring School District operates one elementary school which had an enrollment of 207 students for the 1997-1998 school year. Although school

representatives have noticed an incremental increase in enrollment over the years, they have indicated that they still have the ability to accommodate additional students from within their District and maintain an open enrollment policy. The District noted that they will be developing additional classrooms over the summer of 1998.

In the City of Santa Barbara, the threshold for significant impacts on schools is based on the school district's finding that the school is overcrowded in accordance with Government Code Section 65971[20]. The County of Santa Barbara uses an interim threshold which states that significant impacts to schools would occur when a project would generate a number of students requiring an additional classroom. The equivalent of one classroom is based on State classroom loading standards of 29 students per classroom for elementary/junior high students and 28 students per classroom for high school students.

It is estimated that approximately 134 employees would move into the Santa Barbara area as a result of the proposed project. This in-migration would in turn generate school children who would attend schools primarily in the Santa Barbara and Goleta Union School District areas (assuming that most employees lived in the South Coast), with a limited number of students utilizing other public and private schools within the greater Santa Barbara County area[21]. Using the FEIR/A methodology, the proposed project would increase student population by 80 new elementary students, 32 junior high students, and 21 high school students[22]. Since it is unknown at this time where the students would live, it is assumed that the student population would be dispersed throughout the schools of the school districts mentioned above. In light of the total student population, the proposed project would add a relatively small number of students over a several year period and thus is not expected to create a significant impact to a particular school or school district. In addition, no school or school district has made a formal notification of overcrowding conditions. Therefore, no significant impacts are anticipated due to this project.

V. SUMMARY

The proposed project is anticipated to have no significant project-specific or cumulative employment, population, or housing impacts. However, due to potential overcrowding situations and expected enrollment increases for the Santa Barbara and Goleta Union School Districts, the projected generation of additional students from this proposed project is considered to contribute to a cumulative significant, unavoidable impact. This conclusion is consistent with the

[20] FEIR/A for the SBM Airport Specific Plan (July 1997).

[21] This conclusion can be confirmed with similar statements made in the FEIR/A for the SBM Airport Specific Plan (July 1997).

[22] (134 families x 0.6 elementary students/family) + (134 families x 0.24 junior high students/family) + (134 families x 0.16 high school students/family).

FEIR/A, which states that any incremental increase to the student population would be a cumulative, unavoidable significant impact.

APPENDIX

MIRAVANT MEDICAL TECHNOLOGIES

Employee Classifications & Wages

Job Category	Annual Salary Range	Percent of Workforce
Administrative Assistant/ Clerical	$20,000 - $40,000	16%
Maintenance Mechanic	$24,000 - $31,000	1%
Accountant/Finance	$45,000 - $60,000	2%
Buyer/Purchasing	$37,000 - $47,000	1%
Marketing/Business Development	$36,000 - $40,000	1%
MIS	$32,000 - $45,000	4%
Human Resources	$30,000 - $40,000	2%
Laboratory Assistant	$16,000 - $20,000	5%
Assistant Scientist	$30,000 - $40,000	13%
Associate Scientist	$40,000 - $50,000	7%
Scientist	$50,000 - $65,000	8%
Clinical Research Associate	$45,000 - $63,000	2%
Clinical Director	$80,000 - $150,000	5%
Statistics/Data Management	$31,000 - $60,000	2%
Assembly/Technician	$28,000 - $40,000	5%
Associate Engineer	$40,000 - $45,000	2%
Engineer	$60,000 - $65,000	3%
Quality Assurance	$33,000 - $55,000	2%
Supervisor	$35,000 - $60,000	6%
Sr. Manager/Manager	$55,000 - $100,000	10%
Executive	$100,000 +	3%

SANTA BARBARA GATEWAY CENTER PROJECT
SOLID WASTE MANAGEMENT AND REDUCTION PLAN

Prepared For:

Bermant Development Company
5383 Hollister Avenue, Suite 150
Santa Barbara, CA 93111

Prepared By:

Dudek & Associates
621 Chapala Street
Santa Barbara, CA 93101

EXHIBIT 7

I. INTRODUCTION

The intent of this Solid Waste Management and Reduction Plan is to reduce the amount of solid waste generated by the Santa Barbara Gateway Center Project, located at 6100 Hollister Avenue, in the Goleta area. This Plan is submitted for review and approval by the Santa Barbara County Public Works Department, Solid Waste Division, in compliance with the Santa Barbara Airport Industrial Area Specific Plan Policy SW1.

The California Integrated Waste Management Act of 1989 (State Assembly Bill 939) requires all cities and counties to develop a Source Reduction and Recycling Element for diverting 50% of their solid waste from landfills by the year 2000. City and county governments throughout the state of California have responded by adopting waste diversion programs to meet the requirements of AB 939. To comply with the goals set by AB 939, the County of Santa Barbara requires a reduction in solid waste generation for all new development projects in the County. In Santa Barbara County, approximately 51% of the total solid waste stream is generated by commercial/industrial users.[1]

The Santa Barbara Gateway Center Project site currently supports 103,287 square feet of general/miscellaneous retail, light industrial/manufacturing, warehouse/storage uses. It is estimated that the existing developments currently produce approximately 193 tons per year of solid waste[2]. The proposed Santa Barbara Gateway Center Project includes demolition of the existing buildings and new development of 80,000 square feet of research and development (R&D), 80,000 square feet of executive office, and 20,000 square feet of new retail space (12,500 square feet of general retail and 7,500 square feet of restaurant space). The project is anticipated to generate approximately 469.5 tons per year of solid waste.[3]

It is estimated that implementation of a recycling program could reduce total volume of waste generated by approximately 23 percent,[4] (469.5 x 0.23 = 108) to 361.5 tons per year (469.5 – 108 = 361.5). When the volume of solid waste currently generated onsite is subtracted, the net increase in solid waste is 168.5 tons per year (361.5 – 193 = 168.5). This would be below the County's significance threshold of 196 tons per year. Therefore, the proposed project

---

1 County of Santa Barbara Planning and Development Department, Environmental Thresholds and Guidelines Manual, 1995.

2 The 193 tons per year estimate was calculated using the solid waste generation rates contained in the County's Environmental Thresholds and Guidelines Manual: (1,418 sq. ft. manufacturing x 0.0026) + (6,429 sq. ft. general retail x 0.0057) + (95,440 sq. ft. storage x 0.0016) = 193 tons per year.

3 The 469.5 tons per year estimate was calculated using the solid waste generation rates contained in the County's Environmental Thresholds and Guidelines Manual: (80,000 sq. ft. industrial/manufacturing x 0.0026) + (80,000 sq. ft. office x 0.0013) + (12,500 sq. ft. general retail x 0.0057) + (7,500 sq. ft. eating/drinking establishment x 0.0115) = 469.5 tons per year.

4 As stated in the Santa Barbara Airport Industrial Area Specific Plan EIR/A, section 3.8.

would not have a significant impact on solid waste. However, the project would exceed the cumulative threshold of 40 tons per year, and would have a cumulative significant impact on solid waste.[5]

The current waste collection system for the project site is handled by Browning Ferris Industries (BFI). Trash containers are provided by the customer and BFI provides trash collection services twice a week. BFI does not collect recyclables at curbside for non-residential customers. The trash collected by BFI is sent to the County Transfer Station for eventual disposal at the Tajiguas Landfill.

The following sections present methods to promote solid waste reduction and recycling during both the short-term construction phase and the long-term commercial use phase of the project.

II. SHORT-TERM SOLID WASTE MANAGEMENT/REDUCTION PLAN

Construction and demolition (C&D) recycling is provided by a number of waste collection companies. MarBorg Industries has a recycling program that also supports recycling collections by Browning Ferris Industries (BFI). Construction and demolition recycling involves delivering, hauling, and transporting roll-off boxes of commingled or source-separated recyclables. The material is arranged in a sorting yard, from where it is shipped to markets or to a landfill. During the construction phase of the project, the applicant will assure implementation of the following measures to decrease solid waste.

- The selected contractor will make a reasonable attempt to segregate solid waste prior to the waste being transported offsite. To the maximum extent feasible, solid waste will be separated into general refuse, clean brush, clean metal, concrete, excess lumber/wood products, fill, and cardboard. Roll-off containers will be kept on-site to collect the separated C&D waste. The brush, metals, concrete, wood, fill, and cardboard can be recycled and used for other beneficial purposes.

- If on-site C&D debris segregation and recycling is not economically feasible, the project applicant will contract with a disposal company that recycles C&D debris generated during the construction of the project. Several local disposal companies collect materials using 40 cubic yard roll-off containers and transport the material to their yard where they sort the C&D debris to recover wood products, concrete, metals, dirt, and other materials.

- The contractor will employ the use of recycled materials in construction wherever feasible.

[5] The Santa Barbara Airport Industrial Area Specific Plan EIR/A, section 3.8 concluded that the whole Specific Plan project would result in unavoidable significant project-specific and cumulative solid waste impacts.

- Prior to construction, the contractor will designate a person to monitor recycling efforts and collect receipts for roll-off bins and/or construction waste recycling.

- These construction waste-recycling measures will be incorporated into the construction specifications for the contractor.

III. LONG-TERM SOLID WASTE MANAGEMENT/REDUCTION PLAN

Once the Santa Barbara Gateway Center is developed and all buildings are occupied, implementation and success of the source reduction and recycling program will be the responsibility of the applicant and building tenants. Building tenants will be comprised of companies seeking research and development, manufacturing space and/or office space, and general commercial retailers. These tenants will generate the majority of the solid waste, which will primarily consist of corrugated cardboard, office paper, glass, and aluminum.

The following measures will be implemented by tenants, with oversight by the applicant, to decrease solid waste during the long-term use of the project.

1. General Solid Waste

The following solid waste reduction methods are applicable to all tenant types (R&D, offices, and retailers) unless specified otherwise.

- Where feasible, products shall be purchased in bulk to reduce excess packaging. Where safety hazards do not create significant impacts, products will be purchased, packaged, mailed, and/or moved with less packaging.

- Reuse of materials will be employed to the greatest extent possible. Packaging materials, such as Styrofoam, Enviro-fill, or other package filler, and cardboard boxes will be continuously reused until such material is no longer effective. For engineering and manufacturing (R&D tenants), any applicable industrial protocols encouraging process material reuse will be adhered to.

- Purchase of recycled content products will be encouraged whenever possible. In particular, R&D and executive office tenants will be encouraged to buy paper products containing recycled materials.

- To collect and store recyclables generated by tenants, outdoor common areas throughout the project site will have recycling bins separate from trash bins. Individual tenants will be responsible for providing the appropriate indoor recycling containers separate from trash containers. Several

POTENTIAL TRAFFIC IMPACTS

Trip Generation

Trip generation estimates were developed for the project using the General Office Building (Land use Code 710), Research and Development (Land use Code 760) and Specialty Retail (Land use Code 814) rates listed in the Institute of Transportation Engineers (ITE) Trip Generation manual.[1] Pursuant to ITE designations, trip generation estimates for the retail uses were calculated based on net leasable square-footage. Trip generation estimates for the existing uses which are to be removed from the site were also developed using ITE trip rates. Table 1 summarizes the trip generation estimates for the proposed project.

Table 1
Santa Barbara Gateway Trip Generation

Land Use	Size	ADT		P.M. Peak	
		Rate	Trips	Rate	Trips
Existing Buildings					
Light Industrial	21,120 S.F.	6.97	147	0.98	21
Storage/Misc.	18,232 S.F.	4.88	89	0.74	13
Retail	6,240 S.F.	40.67	254	2.59	16
Total			490		50
Proposed SB Gateway Center					
Office	82,500 S.F.	13.88	1,145	2.08	172
Research & Development	81,600 S.F.	10.59	864	1.38	112
Retail	20,400 S.F.	40.67	830	2.59	53
Total			2,839		337
Net Trip Generation			**2,349**		**287**

Table 1 shows that the proposed project would generate 2,349 net average daily trips and 287 net P.M. peak hour trips.

---

[1] Trip Generation, Institute of Transportation Engineers, Washington D.C., Sixth Edition, November 1997.

Potential Impacts

The uses proposed by the Santa Barbara Gateway Project are consistent with those analyzed in the Environmental Impact Report/Environmental Impact Statement (EIR/EIS) prepared for the Santa Barbara Airport Industrial/Commercial Specific Plan. The Specific Plan included the Airport lease areas that are located within City boundaries immediately north and south of Hollister Avenue and west of Fairview Avenue. This overall area was divided into four subareas for EIR/EIS traffic analysis. The Santa Barbara Gateway uses are planned within portions of Subareas 2 & 3. These subareas included allocations for 80,000 square feet of research & development space, 110,000 square feet of light industrial space, and 102,000 square feet of retail space. Thus, the uses proposed for the Santa Barbara Gateway Project are within the limits of the uses analyzed in the Specific Plan EIR.

The potential impacts associated with the Specific Plan land uses were reviewed in the EIR/EIS. The EIR/EIS traffic analysis found that development of the Specific Plan would contribute to potentially significant cumulative impacts identified at several transportation facilities located within the adjacent Goleta area, which is governed by the County of Santa Barbara. The City and the County have entered into an agreement which requires developments within the Specific Plan area to contribute to the traffic fee program developed by the County for the Goleta area in order to mitigate these impacts. The Santa Barbara Gateway Project would therefore be required to participate in the fee program in order to mitigate its impact to the Goleta-area transportation facilities.

PARKING

The Specific Plan recommended that parking requirements for developments within the planning area be determined on a case-by-case basis. Parking demands for the Santa Barbara Gateway Project were therefore estimated using rates listed in the Institute of Transportation Engineers (ITE) parking manual.[2] Table 2 shows the results of the parking demand calculations.

---

[2] Parking Generation, Institute of Transportation Engineers, Second Edition, Washington D.C., 1987.

Table 2
Santa Barbara Gateway Parking Estimates - ITE Rates

Land Use	Size	Parking Demand[a]	
		Rate	Demand
Office	82,500 S.F.	2.79 spaces / SF	231 spaces
Research & Development	81,600 S.F.	1.75 spaces / SF	143 spaces
Retail	20,000 S.F.	3.23 spaces / SF	65 spaces
TOTAL			**439 spaces**

[a] Office and Research & Development parking demand based on gross square feet, Retail parking based on leasable square feet.

Table 2 shows that 439 spaces would be needed to accommodate the project's parking demands based on ITE rates.

Because the ITE manual contained limited information on Research & Development sites, ATE surveyed a similar site in Goleta (University Business Center) in order to verify parking requirements. ATE also surveyed a similar Goleta-area office building (Mentor Office Building) to verify parking requirements for the proposed office component of the Santa Barbara Gateway project. Table 3 shows the parking rates observed at the existing Mentor Building and the University Business Center, both of which are located in Goleta.

Table 3
Goleta Facilities Observed Parking Demands

Development	Land Use	Size	Observed Parking Demand	Parking Rate
Mentor	Office	72,832 S.F.	223 spaces	3.06 spaces / TSF
University Business Center	R & D	231,005 S.F.	596 spaces	2.58 spaces / TSF

Table 3 shows that a rate of 3.06 spaces/1000 S.F. was observed at the Mentor Office Building and 2.58 spaces/1000 S.F. was observed at the University Business Center. These rates are slightly higher than the ITE parking demand rates. Based on these Goleta rates, the Santa Barbara Gateway Project would generate the following parking demands:

Table 4
Santa Barbara Gateway Parking Estimates - Goleta Rates

Land Use	Size	Parking Demand	
		Rate	Demand
Office	82,500 S.F.	3.06 spaces / TSF	253 spaces
Research & Development	81,600 S.F.	2.58 spaces / TSF	211 spaces
Retail	20,000 S.F.	3.23 spaces / TSF	65 spaces
TOTAL			**529 spaces**

Office and Research & Development parking based on gross square feet, Retail parking based on leasable square feet.

Table 4 shows that 529 spaces would be required to meet the Santa Barbara Gateway Project's parking demand based on the data collected as similar sites in the Goleta area.

This concludes our traffic and parking analysis for the Santa Barbara Gateway Project.

Associated Transportation Engineers

By: Scott A. Schell
Principal Transportation Planner

SAS/DLD

PRELIMINARY DRAINAGE REPORT

for

SANTA BARBARA GATEWAY CENTER PROJECT

City of Santa Barbara, California
August 1998

Prepared for:	**Bermant Development Company**
For submittal to:	**City of Santa Barbara** **Pubic Works Department**
Prepared by:	**Penfield & Smith Engineers, Inc.** **101 East Victoria Street** **Santa Barbara, California 93101** **805/963-9532**
Project Engineer:	**Stephen C. Wang, P.E.**
Work Order No.	**12299.01**

REGISTERED PROFESSIONAL ENGINEER
STEPHEN C. WANG
No: 44255
Exp. 6/30/01
CIVIL
STATE OF CALIFORNIA

Dated 8/26/98

EXHIBIT 9

Penfield Smith

TABLE OF CONTENTS

	Page
INTRODUCTION	1
EXISTING SITE CONDITIONS	1
SITE DEVELOPMENT	1
SITE DRAINAGE	2
DETENTION BASIN	2
SUMMARY	3

CALCULATION INTRODUCTION	Appendix A
HYDROLOGY/DETENTION BASIN CALCULATIONS	Appendix B
STORM DRAIN HYDRAULIC CALCULATIONS	Appendix C
SANTA BARBARA COUNTY DESIGN CHARTS	Appendix D
PRELIMINARY DRAINAGE AREA MAP (in map pocket)	Exhibit A
PRELIMINARY GRADING AND DRAINAGE PLAN (in map pocket)	Exhibit B

PRELIMINARY DRAINAGE REPORT
SANTA BARBARA GATEWAY CENTER PROJECT
CITY OF SANTA BARBARA, CALIFORNIA
W.O. 12299.01

INTRODUCTION

The purpose of this report is to provide the hydrologic and hydraulic information for the Santa Barbara Gateway Center Project site. The report provides preliminary data of the amount of storm water runoff from the site for pre-development and post-development conditions. It also analyzes the volume required of basins for detaining the difference in the runoff between the site's pre- and post-development conditions. It calculates the hydraulic gradient for sizing the storm drain system for receiving and transporting the storm runoff for the proposed site developments.

EXISTING SITE CONDITIONS

The project site is located south of U.S. Highway 101 and north of the Santa Barbara Airport property in the City of Santa Barbara, California. The project site has approximately 15 acres of land, approximately half of the land is undeveloped open space and half of the land is warehouse and pavement areas. The site is bounded by Hollister Avenue to the south, David Love to the west, Francis Botello to the north and Frederick Lopez to the east.

The site generally slopes from the north to the south, and is intercepted by an earth swale along the south of the project site. It then drains to the west, along the swale, and discharges into a drainage structure at the southwest corner of the site. A 5'x2' concrete box culvert then transports the runoff toward the southwest, under Hollister Avenue, and outlets into an earth swale on the south side of Hollister Avenue. The drainage runoff will continue to flow westerly and southerly and eventually outlet into the Goleta Slough. The site's average elevation is 18 to 12 feet MSL with an overall relief of approximately 6 feet. A portion of the site is in a flood hazard area inundated by 100-year flood in accordance with the Flood Insurance Rate Map.

The runoff from the surrounding sites and roadways generally drains from the north to the south, and is received by drainage inlets on the site's perimeter roadways. The runoff eventually flows into the existing drainage structure on the southwest of the project site.

SITE DEVELOPMENT

The site development consists of one (1) executive office building, three (3) research and development buildings and two (2) retail buildings. It also includes parking lots, driveways, and walkway pavement areas; and landscaping, open space and detention basin permeable areas. (See drainage area map on Exhibit A, and Preliminary Grading and Drainage Plan on Exhibit B.)

SITE DRAINAGE

The site drainage calculations consist of on-site hydrology and detention basin, and storm drain hydraulic analysis. The hydrology design utilizes the County of Santa Barbara Flood Control and Water Conservation District (FC&WCD) Urban Hydrograph program to calculate a 25-year storm event runoff for the site's pre- and post- development conditions, and sizing detention basins for detaining the difference of the peak runoff (for hydrology and detention basin calculations see Appendix A).

The storm drainage system was sized based on a 25-year storm event. Rational Formula was used to calculate the drainage runoff for each drainage area. Santa Barbara County Flood Control Design Normographies were used to receive Runoff Coefficient and rainfall intensity (See Appendix D). A Time of Concentration of 12 minutes for each area was used for conservative analysis.

Storm drain capacity is calculated using Manning's Formula:

$$Q = A \times \frac{1.486}{n} \times R^{0.67} \times S^{0.5}$$

where:

n = the pipe roughness coefficient;
R = the hydraulic radius (pipe cross sectional area rainfall/wetted perimeter);
S = the pipe slope in gravity flow and friction slope in pressure flow.

Pressure-momentum equations are used to calculate pressure losses at junctions. A Penfield & Smith in-house computer program was used to calculate hydraulic (water surface) and energy gradients within the piping system (for storm drain system calculation see Appendix B).

DETENTION BASIN

A Santa Barbara County FC&WCD Urban Hydrograph program was used to determine the detention basin size needed to withhold the additional peak runoff generated from the project development.

Two (2) detention basins with a 3:1 side slope were proposed to retain a combined 5.6 cubic feet per second (cfs) of runoff (reduced from 23 cfs of post-development condition to 17.4 cfs of pre-development condition) . An 18-inches diameter Reinforced Concrete pipe will drain the storm runoff from each detention basin to a proposed drainage structure at the south-west area of the project site. The runoff will then be transported southwesterly and flow into an earth swale on the south side of Hollister Avenue. No additional peak runoff generated from the project development will depart from the site.

SUMMARY

The detention basins proposed for the Santa Barbara Gateway Center project development will detain the peak runoff increase for a 25-year storm event resulting from the site development. No increase of drainage runoff will depart from the project site and cause impact to the existing downstream drainage condition.

END

DRAINAGE CALCULATION
FOR
SANTA BARBARA GATEWAY CENTER PROJECT

CALCULATION FOR: ANALYZE THE HYDROLOGY AND HYDRAULIC FOR THE SANTA BARBARA GATEWAY CENTER PROJECT. SIZING DETENTION BASINS FOR DETAINING THE PEAK RUNOFF FROM THE POST-DEVELOPMENT CONDITION TO NOT EXCEED THE PRE-DEVELOPMENT CONDITION. DESIGN STORM DRAIN SYSTEM TO DRAIN THE PROP. SITE TO THE OUTLET STRUCTURE.

CALCULATION CRITERIA:

- USE THE COUNTY OF SANTA BARBARA URBAN HYDROGRAPH (SBUH) COMPUTER PROGRAM TO CALCULATE THE RUNOFFS FOR A 25-YEAR STORM EVENT FOR BOTH THE PRE- & POST DEVELOPMENT CONDITIONS. BASED ON THE CALCULATED RUNOFF TO SIZE (2)-DETENTION BASINS FOR DETAINING THE EXCESS PEAK RUNOFF FROM THE DEVELOPMENT.
- REFERENCING THE COUNTY OF SANTA BARBARA, DEPART OF PUBLIC WORKS DRAINAGE DESIGN NOMOGRAPHIES TO RECEIVE TIME OF CONCENTRATION, RUNOFF COEFFIC, etc.
- USE PENFIELD & SMITH IN-HOUSE STORM DRAIN HYDRA PROGRAM TO SIZE THE DRAINAGE SYSTEM FOR DRAINING THE PROPOSED SITE.

BY
CK. BY

Penfield & Smith
ENGINEERS • SURVEYORS

101 EAST VICTORIA STREET, SANTA BARBARA, CA 93102
805-963-9532 • FAX 805-966-9801

SH ____ OF ____
S.B. GATEWAY CENTER DATE 8/24
W.O. NO. 12299.1

KNOWN:

- TOTAL SITE = ± 15 ACRES. APPROXIMATELY 50% OF THE SITE IS PAVED AREA. THE EXISTING SITE RUNOFF DRAINS FROM THE NORTH TO THE SOUTH INTO AN EARTH SWALE AND THEN WESTERLY TO AN INLET STRUCTURE. THE RUNOFF THEN DRAINS SOUTH-WESTERLY CROSSES HOLLISTER VIA AN EXISTING BOX CULVERT
- THE PROPOSED SITE DEVELOPMENT WILL CONSIST OF 4 OFFICE BUILDINGS, 2 RETAIL BUILDINGS, PARKING LOT AND LANDSCAPE AREA. NO IMPROVEMENTS TO ROBERT PARK WILL BE PROPOSED. ALL SURROUNDING STREET IMPROVEMENTS WILL BE DESIGNED & CONSTRUCTED BY CITY.
- THE PROPOSED SITE DRAINAGE WILL BE GENERALLY FLOW FROM THE NORTH TO THE SOUTH AND INTO (2)-DETENTION BASINS. AN 18" DIA PIPE WILL THEN DRAIN THE RUNOFF FROM EACH DETENTION BASIN TO A NEW JUNCTION STRUCTURE TO BE CONSTRUCTED BY THE CITY AT THE SOUTH-WESTERLY CORNER OF THE SITE. THE RUNOFF WILL THEN FLOW SOUTH-WESTERLY CROSSES HOLLISTER AVENUE VIA A BOX CULVERT.

SANTA BARBARA COUNTY FC&WCD URBAN HYDROGRAPH, Version 1.2.1
08-21-1998
Licensed to Penfield & Smith Engineers, Inc.

WEST DETENTION BAS
Q25 (Pre-Develop.)

COMPUTATION of a Runoff Hydrograph

Hyd Num	Return Period	Drainage Area	--24 hr Rain-- 100yr	Used	Imper-vious	Loss in/hr	T(c) min	Runoff Depth	Vol ac-ft	Peak Flow	Unit q
2	25yrs	8.3ac ✓	8.20in	6.56in	0.10	0.32	18.0	2.47in	1.7	10.7cfs ✓	1.2

FOR UNDEVELOPMENT

H=18.5-12=6.5'
L=820'
⇒ tc=8MINS
Tc=10+8=18MINS

WEST DETENTION E...

Q25 (Post-Develop.)

SANTA BARBARA COUNTY FC&WCD URBAN HYDROGRAPH, Version 1.2.1
08-21-1998
Licensed to Penfield & Smith Engineers, Inc.

COMPUTATION of a Runoff Hydrograph

Hyd Num	Return Period	Drainage Area	--24 hr Rain-- 100yr	Used	Imper-vious	Loss in/hr	T(c) min	Runoff Depth	Vol ac-ft	Peak Flow	Unit q
3	25yrs	8.3ac	8.20in	6.56in	0.80	0.32	12.0	5.65in	3.9	14.1cfs	1.69

FOR COMMERCIAL

LEST Tc IN DESIGN CHART

WEST DETENTION BAS
BASIN CALCULATION

SANTA BARBARA COUNTY FC&WCD URBAN HYDROGRAPH, Version 1.2.1
Licensed to Penfield & Smith Engineers, Inc.
ROUTING Hydrograph 3 [Hydgph] thru a Basin, Outflow Hydrograph is 4

Outlet Pipe(s) :
Btm Slope = .005
Manning's n = .013
No. of Pipes = 1

Diameter = 18 in
Length = 165 ft
Entrance Loss Ke = .5
Pipe Inv below Basin Btm = 0

Basin is 5 x 210 ft, Z = 3

Weir Length = 10 ft, Weir Height = 6 ft

Time (hrs)	Inflow (cfs)	Outflow (cfs)	Storage (ac-ft)	Water Depth (ft)	Flow Over Weir (cfs)
0.25	0.03	0.02	0.00	0.00	
0.50	0.08	0.05	0.00	0.02	
0.75	0.09	0.08	0.00	0.02	
1.00	0.09	0.09	0.00	0.02	
1.25	0.29	0.19	0.00	0.05	
1.50	0.54	0.41	0.00	0.12	
1.75	0.60	0.56	0.01	0.16	
2.00	0.61	0.60	0.01	0.17	
2.25	0.70	0.65	0.01	0.19	
2.50	0.80	0.75	0.01	0.21	
2.75	0.83	0.81	0.01	0.23	
3.00	0.83	0.83	0.01	0.24	
3.25	0.87	0.85	0.01	0.24	
3.50	0.91	0.89	0.01	0.25	
3.75	0.92	0.92	0.01	0.26	
4.00	0.92	0.92	0.01	0.26	
4.25	0.96	0.94	0.01	0.27	
4.50	1.00	0.98	0.01	0.28	
4.75	1.01	1.00	0.01	0.29	
5.00	1.01	1.01	0.01	0.29	
5.25	1.03	1.02	0.01	0.29	
5.50	1.05	1.04	0.01	0.30	
5.75	1.05	1.05	0.01	0.30	
6.00	1.06	1.06	0.01	0.30	
6.25	1.11	1.08	0.01	0.31	
6.50	1.17	1.14	0.01	0.32	
6.75	1.18	1.18	0.01	0.34	
7.00	1.19	1.19	0.01	0.34	
7.25	1.26	1.22	0.01	0.35	
7.50	1.34	1.29	0.01	0.37	
7.75	1.36	1.35	0.02	0.38	
8.00	1.36	1.36	0.02	0.39	
8.25	1.57	1.46	0.02	0.42	
8.50	1.82	1.68	0.02	0.48	
8.75	1.88	1.84	0.02	0.53	
9.00	1.89	1.88	0.02	0.54	
9.25	2.23	2.05	0.02	0.59	
9.50	2.64	2.42	0.03	0.69	
9.75	2.74	2.68	0.03	0.77	
10.00	2.76	2.74	0.03	0.78	
10.25	3.19	2.96	0.03	0.85	
10.50	3.71	3.43	0.04	0.98	
10.75	3.83	3.71	0.04	1.05	

11.00	3.86	3.82	0.04	1.07
11.25	3.86	3.85	0.04	1.08
11.50	3.86	3.86	0.04	1.08
11.75	3.86	3.86	0.04	1.08
12.00	3.86	3.86	0.04	1.08
12.25	4.71	4.20	0.05	1.16
12.50	5.75	5.02	0.06	1.34
12.75	5.99	5.70	0.07	1.49
13.00	6.05	5.96	0.08	1.54
13.25	6.06	6.04	0.08	1.56
13.50	7.76	6.73	0.09	1.71
13.75	14.07	9.02	0.15	2.41
14.00	12.99	10.66 <10.7cfs (OK.)	0.23	3.11 → WATER SURFACE = 10.5 + 3.11 = 13.61'
14.25	5.55	10.24	0.20	2.91
14.50	3.41	7.96	0.11	1.99
14.75	2.91	4.13	0.05	1.14
15.00	2.80	3.03	0.03	0.87
15.25	2.39	2.61	0.03	0.75
15.50	1.90	2.16	0.02	0.62
15.75	1.79	1.86	0.02	0.53
16.00	1.77	1.78	0.02	0.51
16.25	1.59	1.68	0.02	0.48
16.50	1.38	1.50	0.02	0.43
16.75	1.33	1.36	0.02	0.39
17.00	1.32	1.33	0.01	0.38
17.25	1.27	1.30	0.01	0.37
17.50	1.21	1.24	0.01	0.35
17.75	1.19	1.20	0.01	0.34
18.00	1.19	1.19	0.01	0.34
18.25	1.15	1.17	0.01	0.34
18.50	1.11	1.14	0.01	0.32
18.75	1.10	1.11	0.01	0.32
19.00	1.10	1.10	0.01	0.32
19.25	1.07	1.08	0.01	0.31
19.50	1.02	1.05	0.01	0.30
19.75	1.02	1.02	0.01	0.29
20.00	1.01	1.01	0.01	0.29
20.25	0.96	0.99	0.01	0.28
20.50	0.90	0.93	0.01	0.27
20.75	0.88	0.89	0.01	0.26
21.00	0.88	0.88	0.01	0.25
21.25	0.85	0.86	0.01	0.25
21.50	0.80	0.83	0.01	0.24
21.75	0.80	0.80	0.01	0.23
22.00	0.79	0.79	0.01	0.23
22.25	0.69	0.74	0.01	0.21
22.50	0.57	0.63	0.01	0.18
22.75	0.54	0.55	0.01	0.16
23.00	0.53	0.53	0.01	0.15
23.25	0.34	0.44	0.00	0.13
23.50	0.11	0.24	0.00	0.07
23.75	0.06	0.09	0.00	0.03
24.00	0.05	0.06	0.00	0.02

(USED FOR BEGIN H.G.L FOR STORM DRAIN "A")

<<< Summary of Results >>>

Max INFLOW	=	14 cfs	at 13.75 hrs
Max OUTFLOW	=	11 cfs	at 14.00 hrs
Max STORAGE	=	0.23 ac-ft	at 14.00 hrs
Max DEPTH	=	3.11 ft	at 14.00 hrs

```
Total INFLOW Volume          =    3.92 ac-ft
Total OUTFLOW Volume         =    3.92 ac-ft
Storage at end of 24 hours =    0.00 ac-ft
```

.Hydrograph # 4 Calced

SANTA BARBARA COUNTY FC&WCD URBAN HYDROGRAPH, Version 1.2.1 EAST DETENTION B.
08-24-1998
Licensed to Penfield & Smith Engineers, Inc. Q25 (Pre-Develop

COMPUTATION of a Runoff Hydrograph

Hyd Num	Return Period	Drainage Area	--24 hr Rain-- 100yr	Used	Impervious	Loss in/hr	T(c) min	Runoff Depth	Vol ac-ft	Peak Flow	Unit q
5	25yrs	5.3ac	8.20in	6.56in	0.10	0.32	19.0	2.47in	1.1	6.7cfs	1.27

FOR UNDEVELOPMENT

H=17-12=5'
L=800'
⇒ Tc=9min
Tc=10-9=19min.

SANTA BARBARA COUNTY FC&WCD URBAN HYDROGRAPH, Version 1.2.1
08-21-1998
Licensed to Penfield & Smith Engineers, Inc.

EAST DETENTION BAS
Q25 (Post-Develop.

COMPUTATION of a Runoff Hydrograph

Hyd Num	Return Period	Drainage Area	--24 hr Rain-- 100yr	Used	Imper-vious	Loss in/hr	T(c) min	Runoff Depth	Vol ac-ft	Peak Flow	Unit q
6	25yrs	5.3ac	8.20in	6.56in	0.80	0.32	12.0	5.65in	2.5	8.9cfs	1.6

COMMERCIAL

LEAST TC IN DESIGN CHART.

BASIN CALC.

SANTA BARBARA COUNTY FC&WCD URBAN HYDROGRAPH, Version 1.2.1
Licensed to Penfield & Smith Engineers, Inc.
ROUTING Hydrograph 6 [Hydgph] thru a Basin, Outflow Hydrograph is 7

Outlet Pipe(s) :
Btm Slope = .0027
Manning's n = .013
No. of Pipes = 1

Diameter = 18 in
Length = 490 ft
Entrance Loss Ke = .5
Pipe Inv below Basin Btm = 0

Basin is 5 x 200 ft, Z = 3

Weir Length = 10 ft, Weir Height = 6 ft

Time (hrs)	Inflow (cfs)	Outflow (cfs)	Storage (ac-ft)	Water Depth (ft)	Flow Over Weir (cfs)
0.25	0.02	0.01	0.00	0.00	
0.50	0.05	0.03	0.00	0.01	
0.75	0.05	0.05	0.00	0.02	
1.00	0.06	0.05	0.00	0.02	
1.25	0.18	0.11	0.00	0.04	
1.50	0.34	0.25	0.00	0.08	
1.75	0.38	0.35	0.00	0.12	
2.00	0.39	0.38	0.00	0.13	
2.25	0.44	0.41	0.01	0.14	
2.50	0.51	0.47	0.01	0.16	
2.75	0.53	0.51	0.01	0.17	
3.00	0.53	0.53	0.01	0.17	
3.25	0.55	0.54	0.01	0.18	
3.50	0.58	0.56	0.01	0.19	
3.75	0.58	0.58	0.01	0.19	
4.00	0.59	0.58	0.01	0.19	
4.25	0.61	0.60	0.01	0.20	
4.50	0.63	0.62	0.01	0.20	
4.75	0.64	0.64	0.01	0.21	
5.00	0.64	0.64	0.01	0.21	
5.25	0.65	0.65	0.01	0.21	
5.50	0.67	0.66	0.01	0.22	
5.75	0.67	0.67	0.01	0.22	
6.00	0.67	0.67	0.01	0.22	
6.25	0.70	0.68	0.01	0.23	
6.50	0.74	0.72	0.01	0.24	
6.75	0.75	0.74	0.01	0.24	
7.00	0.75	0.75	0.01	0.25	
7.25	0.80	0.77	0.01	0.25	
7.50	0.85	0.82	0.01	0.27	
7.75	0.86	0.85	0.01	0.28	
8.00	0.87	0.86	0.01	0.28	
8.25	0.99	0.92	0.01	0.30	
8.50	1.15	1.06	0.01	0.35	
8.75	1.19	1.16	0.01	0.38	
9.00	1.20	1.19	0.01	0.39	
9.25	1.41	1.30	0.02	0.43	
9.50	1.68	1.52	0.02	0.50	
9.75	1.74	1.69	0.02	0.56	
10.00	1.75	1.74	0.02	0.57	
10.25	2.02	1.87	0.02	0.62	
10.50	2.35	2.16	0.03	0.71	
10.75	2.43	2.37	0.03	0.78	

11.00	2.45	2.43	0.03	0.80
11.25	2.45	2.45	0.03	0.81
11.50	2.45	2.45	0.03	0.81
11.75	2.45	2.45	0.03	0.81
12.00	2.45	2.45	0.03	0.81
12.25	2.99	2.70	0.03	0.89
12.50	3.65	3.20	0.04	1.05
12.75	3.80	3.54	0.05	1.16
13.00	3.84	3.72	0.05	1.22
13.25	3.85	3.80	0.05	1.25
13.50	4.92	4.18	0.06	1.37
13.75	8.93	5.94	0.10	1.94
14.00	8.24	6.73 ≈ 6.7 cfs (o.k.)	0.15	2.43 ← WATER SURFACE = 11 + 2.43 = 13.43 ✓ (USED FOR BEGIN HGL FOR STORM DRAIN "B")
14.25	3.52	6.51	0.13	2.28
14.50	2.16	4.74	0.07	1.55
14.75	1.85	2.96	0.04	0.97
15.00	1.78	1.91	0.02	0.63
15.25	1.51	1.67	0.02	0.55
15.50	1.21	1.39	0.02	0.46
15.75	1.14	1.19	0.01	0.39
16.00	1.12	1.14	0.01	0.37
16.25	1.01	1.07	0.01	0.35
16.50	0.88	0.96	0.01	0.31
16.75	0.85	0.87	0.01	0.29
17.00	0.84	0.85	0.01	0.28
17.25	0.81	0.83	0.01	0.27
17.50	0.77	0.79	0.01	0.26
17.75	0.76	0.76	0.01	0.25
18.00	0.75	0.76	0.01	0.25
18.25	0.73	0.74	0.01	0.25
18.50	0.71	0.72	0.01	0.24
18.75	0.70	0.70	0.01	0.23
19.00	0.70	0.70	0.01	0.23
19.25	0.68	0.69	0.01	0.23
19.50	0.65	0.67	0.01	0.22
19.75	0.64	0.65	0.01	0.21
20.00	0.64	0.64	0.01	0.21
20.25	0.61	0.63	0.01	0.21
20.50	0.57	0.59	0.01	0.20
20.75	0.56	0.57	0.01	0.19
21.00	0.56	0.56	0.01	0.18
21.25	0.54	0.55	0.01	0.18
21.50	0.51	0.53	0.01	0.17
21.75	0.50	0.51	0.01	0.17
22.00	0.50	0.50	0.01	0.17
22.25	0.44	0.47	0.01	0.16
22.50	0.36	0.41	0.00	0.13
22.75	0.34	0.35	0.00	0.12
23.00	0.34	0.34	0.00	0.11
23.25	0.22	0.28	0.00	0.09
23.50	0.07	0.16	0.00	0.05
23.75	0.04	0.06	0.00	0.02
24.00	0.03	0.04	0.00	0.01

<<< Summary of Results >>>

Max INFLOW	=	9 cfs	at 13.75 hrs
Max OUTFLOW	=	7 cfs	at 14.00 hrs
Max STORAGE	=	0.15 ac-ft	at 14.00 hrs
Max DEPTH	=	2.43 ft	at 14.00 hrs

```
Total INFLOW Volume          =    2.49 ac-ft
Total OUTFLOW Volume         =    2.48 ac-ft
Storage at end of 24 hours =    0.00 ac-ft
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..ydrograph # 7 Calced

FULL FLOW STORM DRAIN HYDRAULICS

AT WESTERLY BASIN
THEN NORTHERLY.

PROJECT: SANTA BARBARA GATEWAY CENTER
LOCATION: SANTA BARBARA
CLIENT: BERMANT DEVELOPMENT COMPANY
W.O. #: 12299

PENFIELD & SMITH, INC.
111 E. VICTORIA ST.
SANTA BARBARA, CA 93102
PHONE : 805-963-9532

(STORM DRAIN "A")

CALCULATED BY: SCW
CHECKED BY: *
DIRECTORY NAME: STORM A

DATE: 21-Aug-98
DATE: *
STORM FREQ.: 25 YEAR

W.S. @ WEST BASIN

LINE												
STATION									HGL	Hv	EGL	BEGIN STORM DRAIN
0									13.61	0.38	13.99	
STATION	Q	DIA	A	N	V	Sf	L	Hf	HGL	Hv	EGL	CIRCULAR PIPE
48	17.44	25.5	3.54	0.01	4.92	0.003	48.0	0.12	13.73	0.38	14.11	
STATION	Qu	DIA-u	Qd	DIA-d	Q3	DIA-3	ANGLE3					
	Q4	DIA-4	ANGLE4		Q5	DIA-5	ANGLE5	^Y	HGL	Hv	EGL	JUNCTION LOSS
	15.74	25.5	17.44	25.5	2	48	90					THOMPSON'S EQUATION
48	0	18	90		0	18	90	0.14	13.87	0.31	14.18	
STATION	Q	DIA	A	N	V	Sf	L	Hf	HGL	Hv	EGL	CIRCULAR PIPE
154	15.74	25.5	3.54	0.01	4.44	0.002	106.0	0.22	14.09	0.31	14.40	
STATION	Qu	DIA-u	Qd	DIA-d	Q3	DIA-3	ANGLE3					
	Q4	DIA-4	ANGLE4		Q5	DIA-5	ANGLE5	^Y	HGL	Hv	EGL	JUNCTION LOSS
	11.13	24	15.74	25.5	4	18	90					THOMPSON'S EQUATION
154	1.1	48	90		0	18	90	0.28	14.37	0.20	14.57	
STATION	Q	DIA	A	N	V	Sf	L	Hf	HGL	Hv	EGL	CIRCULAR PIPE
276	11.13	24	3.14	0.01	3.54	0.001	122.0	0.17	14.55	0.20	14.74	
STATION	Qu	DIA-u	Qd	DIA-d	Q3	DIA-3	ANGLE3					
	Q4	DIA-4	ANGLE4		Q5	DIA-5	ANGLE5	^Y	HGL	Hv	EGL	JUNCTION LOSS
	5.51	24	11.13	24	6	18	90					THOMPSON'S EQUATION
276	0	18	90		0	18	90	0.29	14.84	0.05	14.89	
STATION	Q	DIA	A	N	V	Sf	L	Hf	HGL	Hv	EGL	CIRCULAR PIPE
403	5.51	24	3.14	0.01	1.75	0.000	127.0	0.04	14.89	0.05	14.94	
STATION	Qu	DIA-u	Qd	DIA-d	Q3	DIA-3	ANGLE3					
	Q4	DIA-4	ANGLE4		Q5	DIA-5	ANGLE5	^Y	HGL	Hv	EGL	JUNCTION LOSS
	2.71	12	5.51	24	2	18	90					THOMPSON'S EQUATION
403	0.71	48	90		0	18	90	0.00	14.89	0.19	15.08	
STATION	Q	DIA	A	N	V	Sf	L	Hf	HGL	Hv	EGL	CIRCULAR PIPE
582	2.71	12	0.79	0.01	3.45	0.003	179.0	0.61	15.51	0.19	15.69	
STATION	Qu	DIA-u	Qd	DIA-d	Q3	DIA-3	ANGLE3					
	Q4	DIA-4	ANGLE4		Q5	DIA-5	ANGLE5	^Y	HGL	Hv	EGL	JUNCTION LOSS
	1.54	12	2.71	12	1	48	90					THOMPSON'S EQUATION
582	0	18	90		0	18	90	0.25	15.76	0.06	15.82	
STATION	Q	DIA	A	N	V	Sf	L	Hf	HGL	Hv	EGL	CIRCULAR PIPE
734	1.54	12	0.79	0.01	1.96	0.001	152.0	0.17	15.93	0.06	15.99	

STORM DRAIN A1"

FULL FLOW STORM DRAIN HYDRAULICS

PROJECT: SANTA BARBARA GATEWAY CENTER
LOCATION: SANTRA BARBARA
CLIENT: BERMANT DEVELOPMENT COMPANY
W.O. #: 12299

PENFIELD & SMITH, INC.
111 E. VICTORIA ST.
SANTA BARBARA, CA 93102
PHONE : 805-963-9532

CALCULATED BY: SCW
CHECKED BY: *
DIRECTORY NAME: STORM A1

DATE: 21-Aug-98
DATE: *
STORM FREQ.: 25 YEAR

STA 1+54 STORM "A"

LINE												
STATION									HGL	Hv	EGL	BEGIN STORM DRAIN
0									14.37	0.06	14.43	
STATION	Q	DIA	A	N	V	Sf	L	Hf	HGL	Hv	EGL	CIRCULAR PIPE
203	3.51	18	1.77	0.01	1.99	0.001	203.0	0.13	14.50	0.06	14.57	
STATION	Qu	DIA-u	Qd	DIA-d	Q3	DIA-3	ANGLE3					
	Q4	DIA-4	ANGLE4		Q5	DIA-5	ANGLE5	^Y	HGL	Hv	EGL	JUNCTION LOSS
												THOMPSON'S EQUATION
	3.05	18	3.51	18	0	48	90					
203	0	18	90		0	18	90	0.03	14.53	0.05	14.58	
STATION	Q	DIA	A	N	V	Sf	L	Hf	HGL	Hv	EGL	CIRCULAR PIPE
235	3.05	18	1.77	0.01	1.73	0.000	32.0	0.02	14.55	0.05	14.60	
STATION	Qu	DIA-u	Qd	DIA-d	Q3	DIA-3	ANGLE3					
	Q4	DIA-4	ANGLE4		Q5	DIA-5	ANGLE5	^Y	HGL	Hv	EGL	JUNCTION LOSS
												THOMPSON'S EQUATION
	2.76	18	3.05	18	0	48	90					
235	0	18	90		0	18	90	0.02	14.57	0.04	14.60	
STATION	Q	DIA	A	N	V	Sf	L	Hf	HGL	Hv	EGL	CIRCULAR PIPE
319	2.76	18	1.77	0.01	1.56	0.000	84.0	0.03	14.60	0.04	14.64	

File Name: STORMA1.xls

FULL FLOW STORM DRAIN HYDRAULICS

(STORM DRAIN A2"

PROJECT: SANTA BARBARA GATEWAY CENTER
LOCATION: SANTA BARBARA
CLIENT: BERMANT DEVELOPMENT COMPANY
W.O. #: 12299

PENFIELD & SMITH, INC.
111 E. VICTORIA ST.
SANTA BARBARA, CA 93102
PHONE : 805-963-9532

CALCULATED BY: SCW
CHECKED BY: *
DIRECTORY NAME: STORM A2

DATE: 21-Aug-98
DATE: *
STORM FREQ.: 25 YEAR

LINE
STATION STA. 2+76 STORM "A"

0								HGL	Hv	EGL	BEGIN STORM DRAIN
								14.84	0.16	15.00	
STATION	Q	DIA	A	N	V	Sf	L	Hf	HGL	Hv	EGL	CIRCULAR PIPE
260	5.62	18	1.77	0.01	3.18	0.002	260.0	0.44	15.28	0.16	15.44	
STATION	Qu	DIA-u	Qd	DIA-d	Q3	DIA-3	ANGLE3					
	Q4	DIA-4	ANGLE4		Q5	DIA-5	ANGLE5	^Y	HGL	Hv	EGL	JUNCTION LOSS
	2.8	18	5.62	18	3	48	90					THOMPSON'S EQUATION
260	0	18	90		0	18	90	0.24	15.52	0.04	15.56	
STATION	Q	DIA	A	N	V	Sf	L	Hf	HGL	Hv	EGL	CIRCULAR PIPE
405	2.8	18	1.77	0.01	1.59	0.000	145.0	0.06	15.58	0.04	15.62	

File Name: STORMA2.xls

(STORM DRAIN "A3")

FULL FLOW STORM DRAIN HYDRAULICS

PROJECT: SANTA BARBARA GATEWAY CENTER
LOCATION: SANTA BARBARA
CLIENT: BERMANT DEVELOPMENT COMPANY
W.O. #: 12299

PENFIELD & SMITH, INC.
111 E. VICTORIA ST.
SANTA BARBARA, CA 93102
PHONE : 805-963-9532

CALCULATED BY: SCW
CHECKED BY: *
DIRECTORY NAME: STORM A3

DATE: 21-Aug-98
DATE: *
STORM FREQ.: 25 YEAR

LINE
STATION // STA. 4103 STORM "A"

STATION	HGL	Hv	EGL	BEGIN STORM DRAIN
0	14.89	0.02	14.91	

STATION	Q	DIA	A	N	V	Sf	L	Hf	HGL	Hv	EGL	CIRCULAR PIPE
87	2.09	18	1.77	0.01	1.18	0.000	87.0	0.02	14.91	0.02	14.93	

File Name: STORMA3.xls

FULL FLOW STORM DRAIN HYDRAULICS

AT EAST DETENTION BASIN, THEN NORTHERLY

PROJECT: SANTA BARBARA GATEWAY CENTER
LOCATION: SANTA BARBARA
CLIENT: BERMANT DEVELOPMENT COMPANY
W.O. #: 12299

PENFIELD & SMITH, INC.
111 E. VICTORIA ST.
SANTA BARBARA, CA 93102
PHONE : 805-963-9532

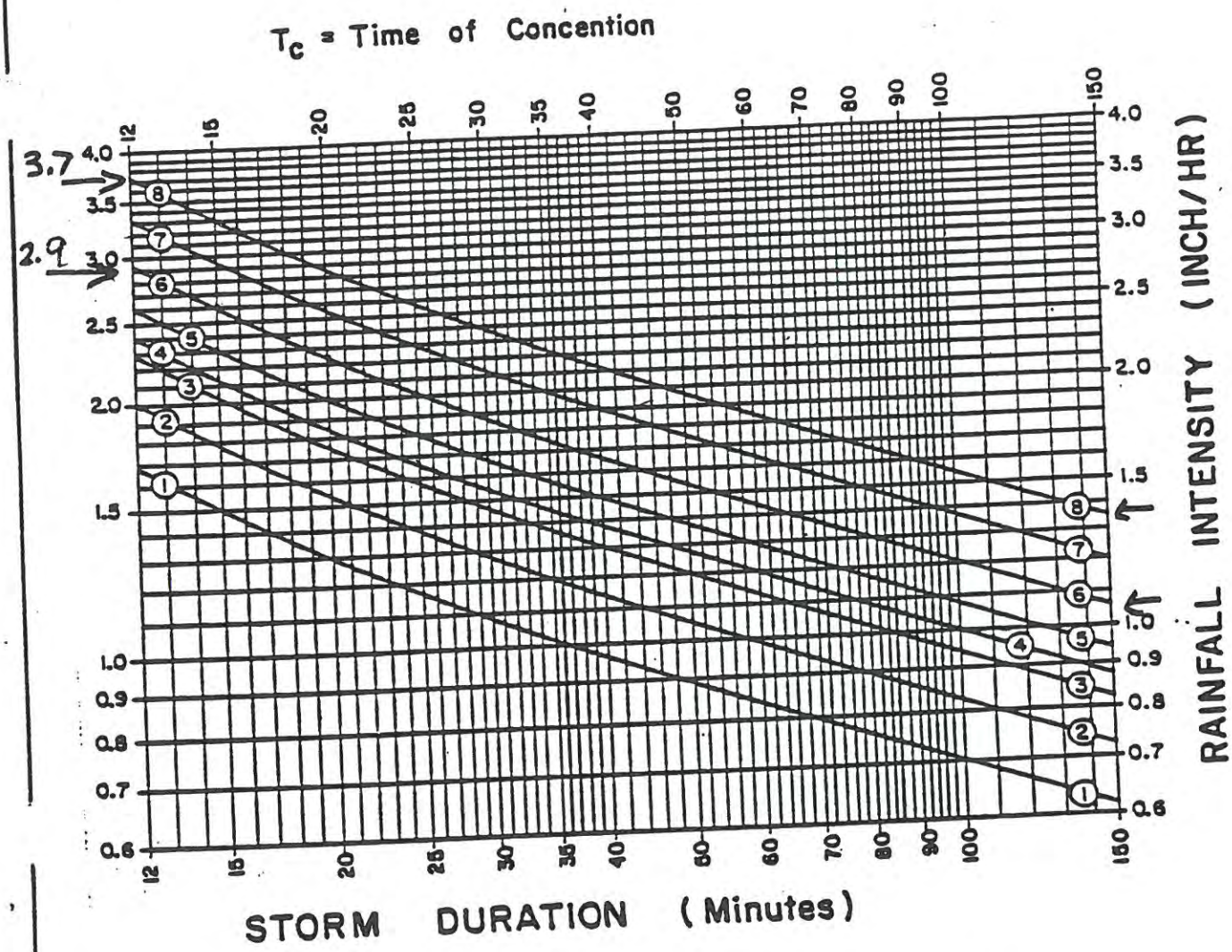
(STORM DRAIN "B")

CALCULATED BY: SCW
CHECKED BY: *
DIRECTORY NAME: STORM B

DATE: 21-Aug-98
DATE: *
STORM FREQ.: 25 YEAR

W.S. @ EAST BASIN

LINE												
STATION									HGL	Hv	EGL	BEGIN STORM DRAIN
0									13.43	0.17	13.60	
STATION	Q	DIA	A	N	V	Sf	L	Hf	HGL	Hv	EGL	CIRCULAR PIPE
45	10.54	24	3.14	0.01	3.36	0.001	45.0	0.06	13.49	0.17	13.66	
STATION	Qu	DIA-u	Qd	DIA-d	Q3	DIA-3	ANGLE3					
	Q4	DIA-4	ANGLE4		Q5	DIA-5	ANGLE5	^Y	HGL	Hv	EGL	JUNCTION LOSS
	8.78	24	10.54	24	2	48	90					THOMPSON'S EQUATION
45	0	18	90		0	18	90	0.11	13.59	0.12	13.72	
STATION	Q	DIA	A	N	V	Sf	L	Hf	HGL	Hv	EGL	CIRCULAR PIPE
151	8.78	24	3.14	0.01	2.80	0.001	106.0	0.09	13.69	0.12	13.81	
STATION	Qu	DIA-u	Qd	DIA-d	Q3	DIA-3	ANGLE3					
	Q4	DIA-4	ANGLE4		Q5	DIA-5	ANGLE5	^Y	HGL	Hv	EGL	JUNCTION LOSS
	7.63	24	8.78	24	1	48	90					THOMPSON'S EQUATION
151	0	18	90		0	18	90	0.06	13.75	0.09	13.84	
STATION	Q	DIA	A	N	V	Sf	L	Hf	HGL	Hv	EGL	CIRCULAR PIPE
300	7.63	24	3.14	0.01	2.43	0.001	149.0	0.10	13.85	0.09	13.94	
STATION	Qu	DIA-u	Qd	DIA-d	Q3	DIA-3	ANGLE3					
	Q4	DIA-4	ANGLE4		Q5	DIA-5	ANGLE5	^Y	HGL	Hv	EGL	JUNCTION LOSS
	7.19	24	7.63	24	0	48	90					THOMPSON'S EQUATION
300	0	18	90		0	18	90	0.02	13.87	0.08	13.95	
STATION	Q	DIA	A	N	V	Sf	L	Hf	HGL	Hv	EGL	CIRCULAR PIPE
330	7.19	24	3.14	0.01	2.29	0.001	30.0	0.02	13.89	0.08	13.97	
STATION	Qu	DIA-u	Qd	DIA-d	Q3	DIA-3	ANGLE3					
	Q4	DIA-4	ANGLE4		Q5	DIA-5	ANGLE5	^Y	HGL	Hv	EGL	JUNCTION LOSS
	6.99	24	7.19	24	0	48	90					THOMPSON'S EQUATION
330	0	18	90		0	18	90	0.01	13.90	0.08	13.97	
STATION	Q	DIA	A	N	V	Sf	L	Hf	HGL	Hv	EGL	CIRCULAR PIPE
420	6.99	24	3.14	0.01	2.23	0.001	90.0	0.05	13.95	0.08	14.02	
STATION	Qu	DIA-u	Qd	DIA-d	Q3	DIA-3	ANGLE3					
	Q4	DIA-4	ANGLE4		Q5	DIA-5	ANGLE5	^Y	HGL	Hv	EGL	JUNCTION LOSS
	5.07	24	6.99	24	2	48	90					THOMPSON'S EQUATION
420	0	18	90		0	18	90	0.07	14.02	0.04	14.06	
STATION	Q	DIA	A	N	V	Sf	L	Hf	HGL	Hv	EGL	CIRCULAR PIPE
530	5.07	24	3.14	0.01	1.61	0.000	110.0	0.03	14.05	0.04	14.09	
STATION	Qu	DIA-u	Qd	DIA-d	Q3	DIA-3	ANGLE3					
	Q4	DIA-4	ANGLE4		Q5	DIA-5	ANGLE5	^Y	HGL	Hv	EGL	JUNCTION LOSS
	3.24	18	5.07	24	2	48	90					THOMPSON'S EQUATION
530	0	18	90		0	18	90	0.03	14.08	0.05	14.13	
STATION	Q	DIA	A	N	V	Sf	L	Hf	HGL	Hv	EGL	CIRCULAR PIPE
740	3.24	18	1.77	0.01	1.83	0.001	210.0	0.12	14.20	0.05	14.25	



INDEX TO CURVES				
AREA	FREQUENCY			
	10% (Q_{10})	4% (Q_{25})	2% (Q_{50})	1% (Q_{100})
SANTA MARIA ORCUTT	1	2	3	5
LOMPOC SANTA YNEZ	2	3	5	6
GOLETA SANTA BARBARA CARPINTERIA (Coasta Plain Only)	4	6	7	8

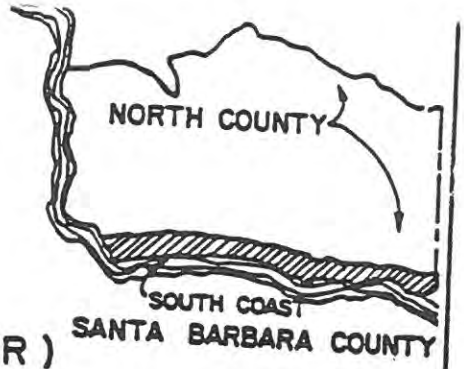
100 YR

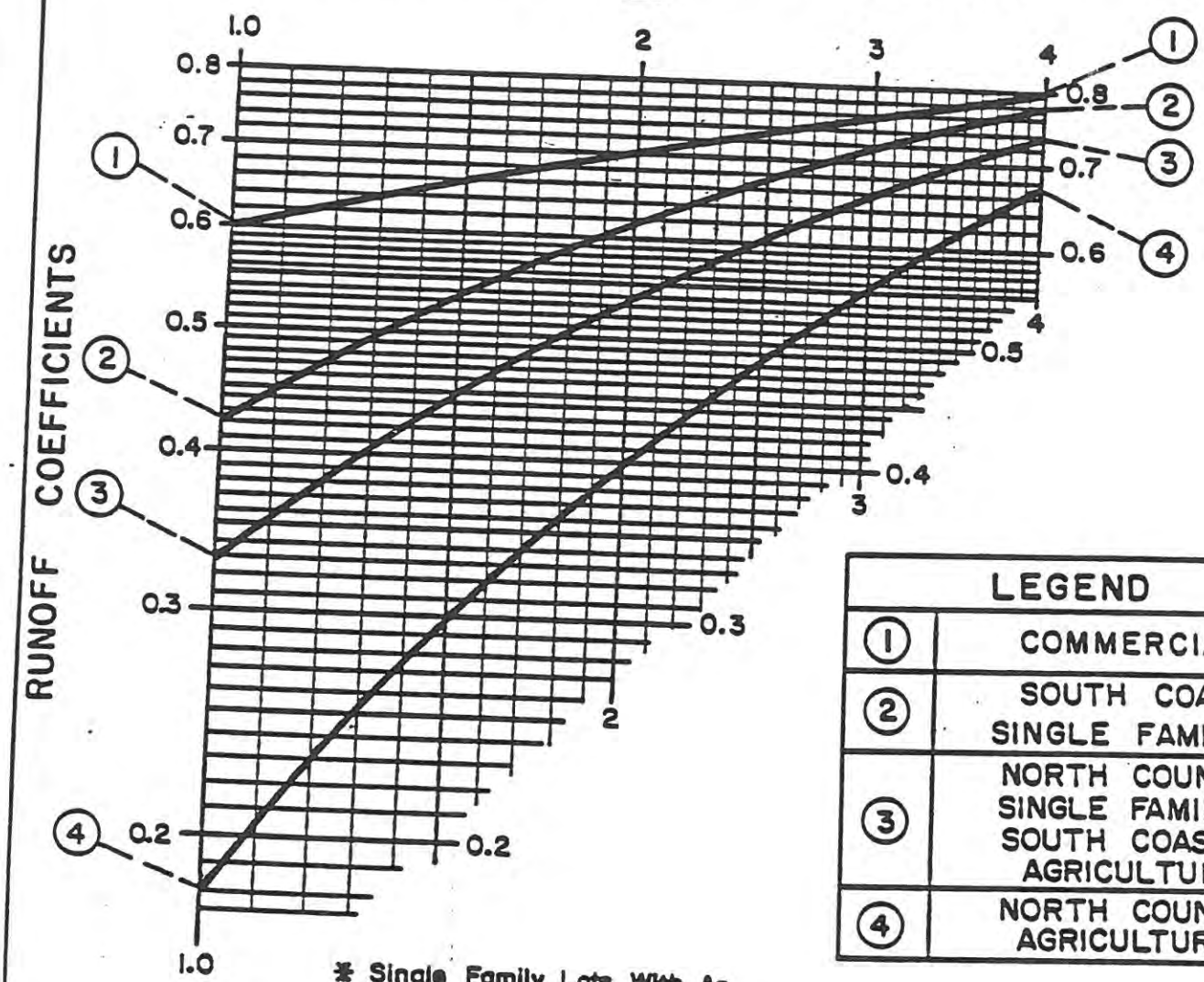
25 YR

SANTA BARBARA COUNTY
DEPARTMENT OF PUBLIC WORKS
ROAD DIVISION

RAINFALL
INTENSITY - DURATION CURVES

FIGURE
1





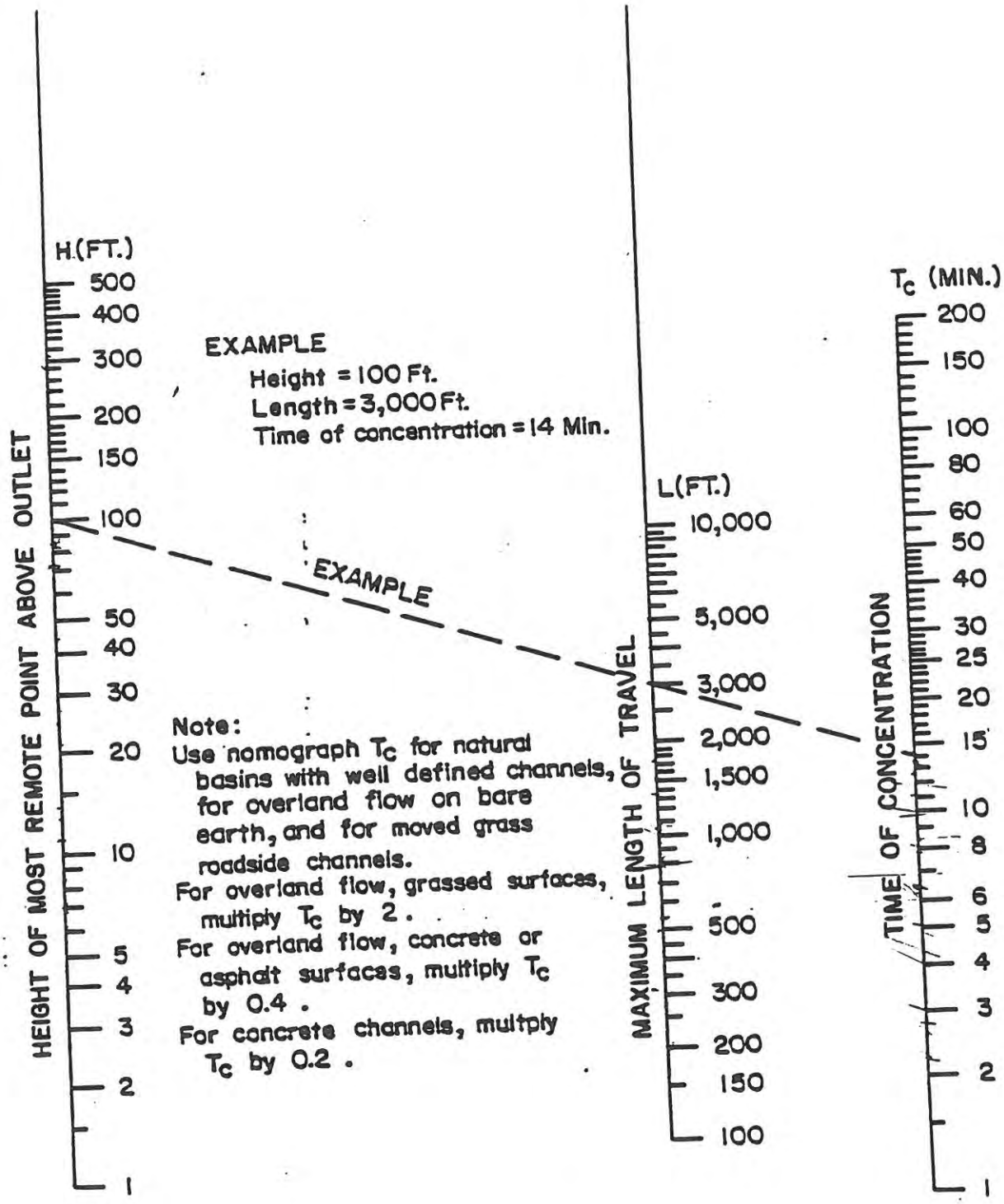
LEGEND	
1	COMMERCIAL
2	SOUTH COAST SINGLE FAMILY *
3	NORTH COUNTY SINGLE FAMILY,* SOUTH COAST AGRICULTURE
4	NORTH COUNTY AGRICULTURE

* Single Family Lots With An Average Of 10,000 sq. ft. Or Less. Interpolate Between Single Family And Agriculture For Large Lots.

SANTA BARBARA COUNTY
DEPARTMENT OF PUBLIC WORKS
ROAD DIVISION

RUNOFF COEFFICIENTS VS. RAINFALL INTENSITY
For Subdivision And Small Watershed Design in Santa Barbara County

FIGURE 2



SANTA BARBARA COUNTY
DEPARTMENT OF PUBLIC WORKS
ROAD DIVISION

TIME OF CONCENTRATION OF SMALL DRAINAGE BASINS

FIGURE 3

LEGEND

GENERAL NOTES

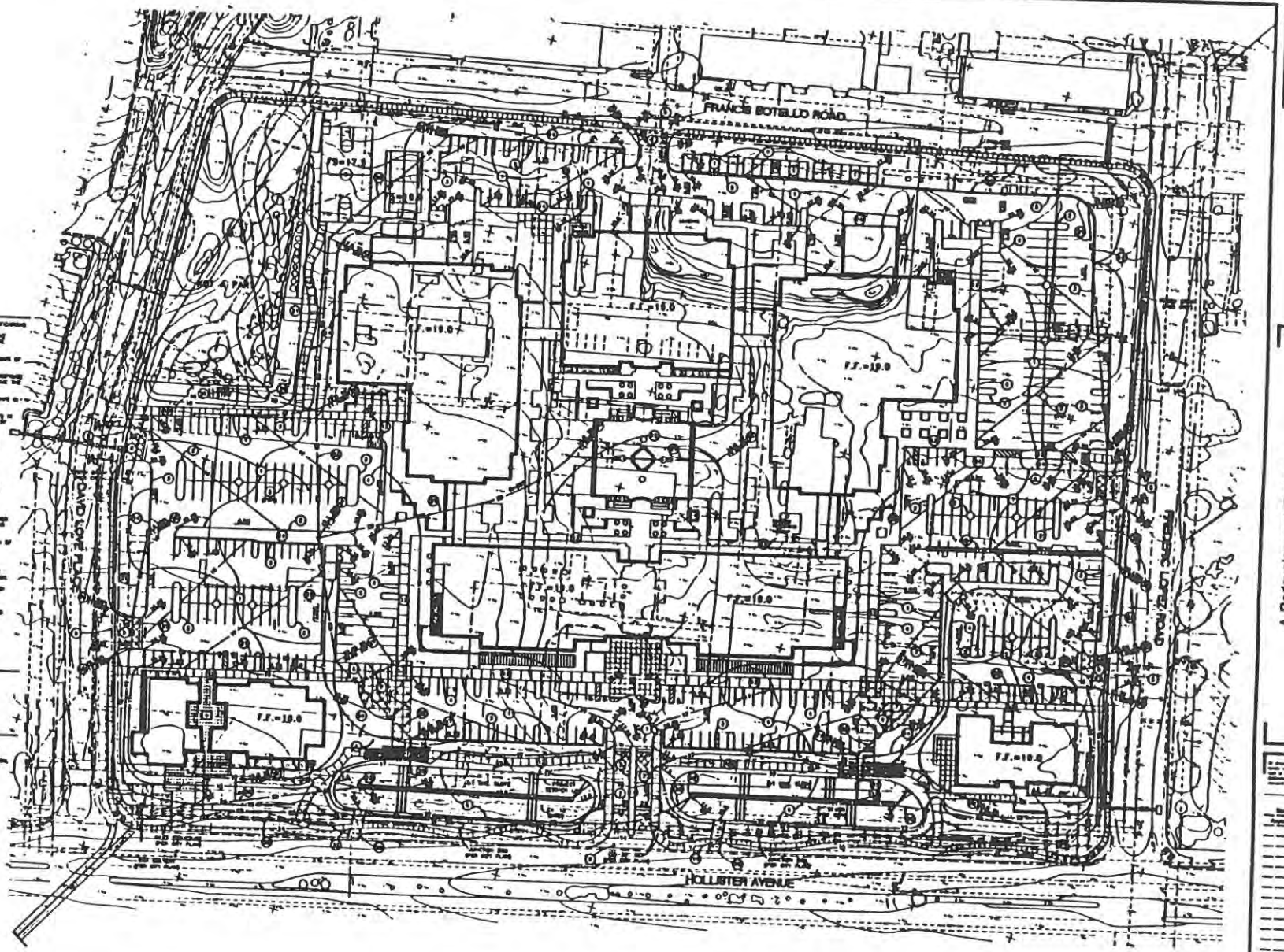
EARTHWORK QUANTITIES

EXISTING UNDERGROUND FACILITIES

CONSTRUCTION NOTES

GRADING NOTES

DRAINAGE NOTES



Pentfield & Smith
ENGINEERS & SURVEYORS

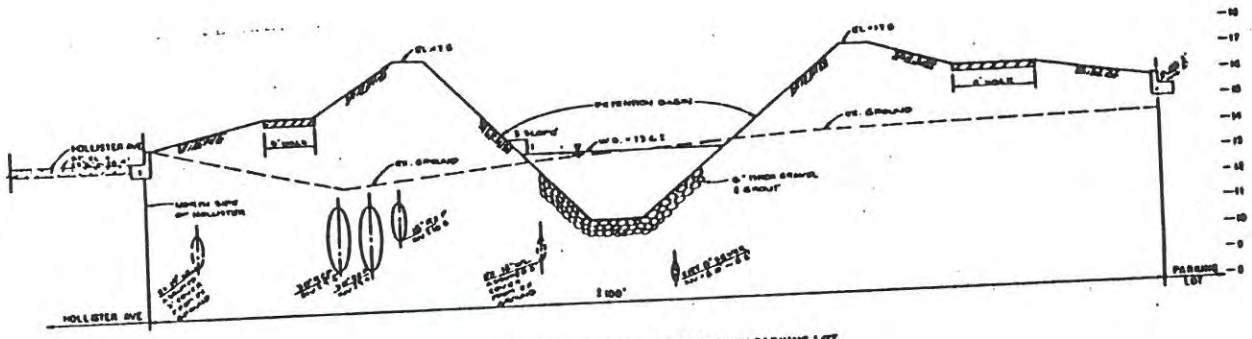
A Redevelopment Project
Santa Barbara Gateway Center
City of Santa Barbara
A Proposal of BERMANT DEVELOPMENT

PRELIMINARY GRADING AND DRAINAGE PLAN

August 20, 1990

1"=40'

C-3



CROSS SECTION FROM HOLLISTER THRU PARKING LOT

SCALE: HORIZ. 1" = 5'
VERT. 1" = 5'

Penfield & Smith
ENGINEERS & SURVEYORS

POLIGRID COLLEGE DESIGN GROUP
ARCHITECTURE PLANNING INTERIOR DESIGN

A Redevelopment Project

Santa Barbara Gateway Center

City of Santa Barbara

A Proposal of BERMANT DEVELOPMENT

Remarks	Date	By

SECTION

Drawn By

Project No.

Date August 20, 1998

Scale 1" = 40'

Sheet C-5

APPENDIX 2

URBEMIS 5 Model Run
1997 Airport Gateway Center Site- Existing Conditions

PROJECT NAME: Airport Gateway Center Date: 09-30-1998

Project Area: South Central Coast (Santa Barbara/San Luis Obispo) Analysis

Year: 1997 Temperature (F): 70 Season: Summer

EMFAC Version: Emfac7f1.1(12/93)

Summary of Land Uses:

Unit Type	Trip Rate	Size	Tot Trips
General Light Industry	7.0/1000 Sqft	49	340
Neighborhood Shop. Cntr. 50k Sqft	92.0/1000 Sqft	3	287

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent	Non-Catalyst	Catalyst	Diesel
Light Duty Autos	65.0	8.2	90.9	0.9
Light Duty Trucks	15.0	8.7	90.6	0.8
Medium Duty Trucks	5.0	0.9	99.1	0.0
Heavy Duty Trucks	4.0	54.7	45.3	N/A
Heavy Duty Trucks	8.0	N/A	N/A	100.0
Motorcycles	3.0	100.0	N/A	N/A

Travel Conditions:

	Residential		Commercial		
	Home-Work	Home-Shop	Home-Other	Work	Non-Work
Trip Length	12.5	9.6	11.3	12.5	10.2
% Started Cold	88.4	40.3	58.6	77.6	27.4
Trip Speed	25	25	25	25	25
Percent Trip	20.6	18.0	61.4		

Project Emissions Report in Lb/Day:

Unit Type	TOG	CO	NOx
General Light Industry	13.20	90.22	15.80
Neighborhood Shop. Cntr. 50k Sqft	9.75	64.06	12.02
TOTALS	22.94	154.27	27.82

Project Emissions Report in Lb/Day (Continued)

Unit Type	FUEL (Gal.)	PM10	SOx
General Light Industry	197.3	2.21	0.94
Neighborhood Shop. Cntr. 50k	150.3	1.68	0.72
TOTALS	347.6	3.90	1.66

APPENDIX 3

URBEMIS 5 Model Run
2005 Airport Gateway Center Project Buildout

PROJECT NAME: Airport Gateway Center Date: 09-30-1998

Project Area: South Central Coast (Santa Barbara/San Luis Obispo)

Analysis Year: 2005 Temperature (F): 70 Season: Summer

EMFAC Version: Emfac7f1.1(12/93)

Summary of Land Uses:

Unit Type	Trip Rate	Size	Tot Trips
Neighborhood Shop. Cntr. 50k Sqft	3.0/1000 Sqft	12	36
Industrial Park	2.0/1000 Sqft	80	160
Restaurant (Fast Food)	12.0/1000 Sqft	8	96
Office Park	2.0/1000 Sqft	80	160

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Duty Autos	65.0	8.2	90.9	0.9
Light Duty Trucks	15.0	8.7	90.6	0.8
Medium Duty Trucks	5.0	0.9	99.1	0.0
Heavy Duty Trucks	4.0	54.7	45.3	N/A
Heavy Duty Trucks	8.0	N/A	N/A	100.0
Motorcycles	3.0	100.0	N/A	
N/A				

Travel Conditions:

	Residential		Commercial		
	Home-Work	Home-Shop	Home-Other	Work	Non-Work
Trip Length	5.3	3.4	4.2	4.7	3.6
% Started Cold	88.7	40.5	59.0	78.0	27.8
Trip Speed	25	25	25	25	25
Percent Trip	27.3	21.2	51.5		

Project Emissions Report in Lb/Day:

Unit Type	TOG	CO	NOx
Neighborhood Shop. Cntr. 50k Sqft	0.45	2.61	0.51
Industrial Park	2.25	14.08	2.52
Restaurant (Fast Food)	1.20	7.07	1.37
Office Park	2.30	14.49	2.56
TOTALS	6.20	38.25	6.95

Unit Type	FUEL (Gal.)	PM10	SOx
Neighborhood Shop. Cntr. 50k	6.7	0.06	0.03
Industrial Park	33.2	0.29	0.16
Restaurant (Fast Food)	17.9	0.16	0.09
Office Park	33.7	0.29	0.16
TOTALS	91.5	0.80	0.44

APPENDIX 4

URBEMIS 7G Model Run
1997 Airport Gateway Center Site- Existing Conditions

URBEMIS 7G: Version 3.1

File Name: AGC1997.URB
Project Name: Airport Gateway Center- 1997 Existing Conditions
Project Location: Santa Barbara County

DETAILED REPORT - Summer

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 1997 Temperature (F): 70 Season: Summer

EMFAC Version: EMFAC7G (10/96)

Summary of Land Uses:

Unit Type	Trip Rate	Size	Total Trips
Retail	259.40 trips / 1000 sq. ft.	3.12	809.33
Warehouse	0.12 trips / 1000 sq. ft.	31.23	3.75
General light industry	4.70 trips / 1000 sq. ft.	17.39	81.73

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Duty Autos	65.00	8.16	90.92	0.92
Light Duty Trucks	15.00	8.66	90.59	0.75
Medium Duty Trucks	5.00	0.90	99.10	
Lite-Heavy Duty Trucks	2.00	15.40	45.28	39.32
Med.-Heavy Duty Trucks	2.00	12.53	12.25	75.22
Heavy-Heavy Trucks	6.00			100.00
Urban Buses	2.00			100.00
Motorcycles	3.00	100.00 % all fuels		

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	11.6	8.9	10.5	11.6	9.4	9.4
Rural Trip Length (miles)	15.0	15.0	15.0	15.0	10.0	10.0
Trip Speeds (mph)	35	35	35	35	35	35
% of Trips - Residential	20.6	18.0	61.4			
% of Trips - Commercial (by land use)						
Retail				2.0	1.0	97.0
Warehouse				2.0	1.0	97.0
General light industry				50.0	25.0	25.0

UNMITIGATED EMISSIONS

	ROG	NOx	CO	PM10
Retail	3.97	7.43	32.76	0.37
Warehouse	0.19	0.03	0.15	0.00
General light industry	0.57	0.83	4.02	0.04
TOTAL EMISSIONS (tons/year)	4.73	8.30	36.93	0.42

Includes correction for passby trips.
Does not include double counting adjustment for internal trips.

MITIGATED EMISSIONS

	ROG	NOx	CO	PM10
Retail	3.89	7.29	32.14	0.37
Warehouse	0.19	0.03	0.15	0.00
General light industry	0.56	0.82	3.96	0.04
TOTAL EMISSIONS (tons/year)	4.65	8.14	36.24	0.41

Includes correction for passby trips.
Does not include double counting adjustment for internal trips.

UNMITIGATED EMISSIONS

	ROG	NOx	CO	PM10
Retail	19.38	39.53	159.11	2.04
Warehouse	1.05	0.18	0.74	0.01
General light industry	2.80	4.44	19.30	0.23

	ROG	NOx	CO	PM10
TOTAL EMISSIONS (lbs/day)	23.22	44.15	179.15	2.28

Includes correction for passby trips.
Does not include double counting adjustment for internal trips.

MITIGATED EMISSIONS

	ROG	NOx	CO	PM10
Retail	19.01	38.77	156.08	2.00
Warehouse	1.05	0.18	0.72	0.01
General light industry	2.76	4.37	18.99	0.22

	ROG	NOx	CO	PM10
TOTAL EMISSIONS (lbs/day)	22.81	43.32	175.80	2.24

Includes correction for passby trips.
Does not include double counting adjustment for internal trips.

ENVIRONMENTAL FACTORS APPLICABLE TO THE PROJECT

Pedestrian Environment

0 Side Walks/Paths: No Sidewalks
0 Street Trees Provide Shade: No Coverage
0 Pedestrian Circulation Access: No Destinations
0 Visually Interesting Uses: No Interest
0 Street System Enhances Safety: No Streets Designed this Way
0 Pedestrian Safety from Crime: No Degree of Perceived Safety
0 Visually Interesting Walking Routes: No Visual Interest

3.8 <- Pedestrian Environmental Credit
3.8 /19 = 0.20 <- Pedestrian Effectiveness Factor

Transit Service

0 Transit Service: Dial-A-Ride or No Transit Service

0.0 <- Transit Effectiveness
3.8 <- Pedestrian Factor
3.8 <-Total
3.8 /110 = 0.03 <-Transit Effectiveness Factor

Bicycle Environment

0 Interconnected Bikeways: No Bikeway Coverage
0 Bike Routes Provide Paved Shoulders: No Routes Provide these Features
0 Safe Vehicle Speed Limits: No Routes
0 Safe School Routes: No Schools
0 Uses w/in Cycling Distance: No Uses
0 Bike Parking Ordinance: No Ordinance or Unenforceable

4.0 <- Bike Environmental Credit
4.0 /20 = 0.20 <- Bike Effectiveness Factor

MITIGATION MEASURES SELECTED FOR THIS PROJECT
(All mitigation measures are printed, even if
the selected land uses do not constitute a mixed use.)

Transit Infrastructure Measures

% Trips Reduced	Measure
15	Credit for Existing or Planned Community Transit Service
15	<- Totals

Pedestrian Enhancing Infrastructure Measures (Residential)

% Trips Reduced	Measure
2	Credit for Surrounding Pedestrian Environment
2	<- Totals

Pedestrian Enhancing Infrastructure Measures (Non-Residential)

% Trips Reduced	Measure
2	Credit for Surrounding Pedestrian Environment
2	<- Totals

Bicycle Enhancing Infratructure Measures (Residential)

% Trips Reduced	Measure
7	Credit for Surrounding Bicycle Environment
7	<- Totals

Bike Enhancing Infrastructure Measures (Non-Residential)

% Trips Reduced	Measure
5	Credit for Surrounding Area Bike Environment
5	<- Totals

Operational Measures (Applying to Commute Trips)

% Trips Reduced	Measure
0	<- Totals

Operational Measures (Applying to Employee Non-Commute Trips)

% Trips Reduced	Measure
0	<- Totals

Operational Measures (Applying to Customer Trips)

% Trips Reduced	Measure
0	<- Totals

Measures Reducing VMT (Non-Residential)

VMT Reduced	Measure
0	<- Totals

Measures Reducing VMT (Residential)

VMT Reduced	Measure
0	<- Totals

Total Percentage Trip Reduction
with Environmental Factors and Mitigation Measures

Travel Mode	Home-Work Trips	Home-Shop Trips	Home-Other Trips
Pedestrian	0.04	0.18	0.18
Transit	0.52	0.11	0.14
Bicycle	1.40	1.40	1.40
Totals	1.96	1.69	1.72

Travel Mode	Work Trips	Employee Trips	Customer Trips
Pedestrian	0.04	0.40	0.40
Transit	0.52	0.01	0.52
Bicycle	1.00	1.00	1.00
Other	0.00	0.00	0.00
Totals	1.56	1.41	1.92

Changes Made to the Default Values

Operational/Vehicle Related:
The passby option switch has been changed
The operational emissions mitigation switch has been changed
The default light duty auto fleet mix percentages or fuel/technology classes have been modified
The default medium duty truck fleet mix percentages or fuel/technology classes have been modified
The default medium heavy duty truck fleet mix percentages or fuel/technology classes have been modified
The default heavy heavy truck fleet mix percentages or fuel/technology classes have been modified
The default bus fleet mix percentages or fuel/technology classes have been modified
The default speeds have been modified

APPENDIX 5

URBEMIS 7G Model Run
2005 Airport Gateway Center Project Buildout

URBEMIS 7G: Version 3.1

File Name: AGC2005.URB
Project Name: Airport Gateway Center- 2005 Buildout
Project Location: Santa Barbara County

DETAILED REPORT - Summer

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2005 Temperature (F): 70 Season: Summer

EMFAC Version: EMFAC7G (10/96)

Summary of Land Uses:

Unit Type	Trip Rate	Size	Total Trips
High turnover (sit-dow	177.90 trips / 1000 sq. ft.	8.00	1,423.20
Retail	40.67 trips / 1000 sq. ft.	12.00	488.04
Office park	15.10 trips / 1000 sq. ft.	80.00	1,208.00
R&D	5.70 trips / 1000 sq. ft.	80.00	456.00

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Duty Autos	65.00	8.16	90.92	0.92
Light Duty Trucks	15.00	8.66	90.59	0.75
Medium Duty Trucks	5.00	0.90	99.10	
Lite-Heavy Duty Trucks	2.00	15.40	45.28	39.32
Med.-Heavy Duty Trucks	2.00	12.53	12.25	75.22
Heavy-Heavy Trucks	6.00			100.00
Urban Buses	2.00			100.00
Motorcycles	3.00	100.00 % all fuels		

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	11.6	8.9	10.5	11.6	9.4	9.4
Rural Trip Length (miles)	15.0	15.0	15.0	15.0	10.0	10.0
Trip Speeds (mph)	35	35	35	35	35	35
% of Trips - Residential	20.6	18.0	61.4			
% of Trips - Commercial (by land use)						
High turnover (sit-down) rest.				5.0	2.5	92.5
Retail				2.0	1.0	97.0
Office park				48.0	24.0	28.0
R&D				41.5	20.8	37.8

UNMITIGATED EMISSIONS

	ROG	NOx	CO	PM10
High turnover (sit-down	4.81	9.33	39.96	0.36
Retail	1.67	3.18	13.54	0.12
Office park	4.95	8.68	39.75	0.33
R&D	2.05	3.23	14.67	0.12
TOTAL EMISSIONS (tons/year)	13.48	24.42	107.93	0.94

Includes correction for passby trips.
Does not include double counting adjustment for internal trips.

MITIGATED EMISSIONS

	ROG	NOx	CO	PM10
High turnover (sit-down	4.12	7.98	34.20	0.31
Retail	1.44	2.71	11.57	0.10
Office park	4.38	7.60	34.81	0.29
R&D	1.83	2.82	12.81	0.11
TOTAL EMISSIONS (tons/year)	11.77	21.12	93.38	0.81

Includes correction for passby trips.
Does not include double counting adjustment for internal trips.

UNMITIGATED EMISSIONS

	ROG	NOx	CO	PM10
High turnover (sit-down)	23.54	49.85	198.06	1.97
Retail	8.21	16.98	67.14	0.67
Office park	24.29	46.39	195.67	1.84
R&D	10.18	17.28	72.29	0.68
	ROG	NOx	CO	PM10
TOTAL EMISSIONS (lbs/day)	66.21	130.49	533.15	5.16

Includes correction for passby trips.
Does not include double counting adjustment for internal trips.

MITIGATED EMISSIONS

	ROG	NOx	CO	PM10
High turnover (sit-down)	20.17	42.65	169.52	1.69
Retail	7.06	14.50	57.36	0.57
Office park	21.49	40.59	171.30	1.61
R&D	9.12	15.07	63.10	0.60
	ROG	NOx	CO	PM10
TOTAL EMISSIONS (lbs/day)	57.84	112.83	461.28	4.46

Includes correction for passby trips.
Does not include double counting adjustment for internal trips.

ENVIRONMENTAL FACTORS APPLICABLE TO THE PROJECT

Pedestrian Environment

2	Side Walks/Paths: Most Destinations Covered
1	Street Trees Provide Shade: Moderate Coverage
2	Pedestrian Circulation Access: Some Destinations
3	Visually Interesting Uses: Moderate Number and Variety
0	Street System Enhances Safety: No Streets
1	Pedestrian Safety from Crime: Moderate Degree of Safety
1	Visually Interesting Walking Routes: Moderate Level

10.0 <- Pedestrian Environmental Credit
10.0 /19 = 0.53 <- Pedestrian Effectiveness Factor

Transit Service

20	Transit Service: 15-30 Minute Bus within 1/4 Mile

20.0 <- Transit Effectiveness
10.0 <- Pedestrian Factor
30.0 <-Total
30.0 /110 = 0.27 <-Transit Effectiveness Factor

Bicycle Environment

5	Interconnected Bikeways: High Coverage
3	Bike Routes Provide Paved Shoulders: Most Major Destinations
0.5	Safe Vehicle Speed Limits: Few Destinations
0	Safe School Routes: No Schools
3	Uses w/in Cycling Distance: Large Number and Variety
2	Bike Parking Ordinance: Requires Secure Bike Parking

13.5 <- Bike Environmental Credit
13.5 /20 = 0.68 <- Bike Effectiveness Factor

MITIGATION MEASURES SELECTED FOR THIS PROJECT
(All mitigation measures are printed, even if
the selected land uses do not constitute a mixed use.)

Transit Infrastructure Measures

% Trips Reduced	Measure
15	Credit for Existing or Planned Community Transit Service
2	Provide Transit Shelters Benches
0.5	Provide Street Lighting
0.5	Provide Route Signs and Displays
1	Provide Bus Turnouts
19	<- Totals

Pedestrian Enhancing Infrastructure Measures (Residential)

% Trips Reduced	Measure
2	Credit for Surrounding Pedestrian Environment
2	<- Totals

Pedestrian Enhancing Infrastructure Measures (Non-Residential)

% Trips Reduced	Measure
2	Credit for Surrounding Pedestrian Environment
1	Mixed Use Project (Commercial Oriented)
1	Provide Wide Sidewalks and Onsite Pedestrian Facilities
0.5	Provide Street Lighting
0.5	Project Provides Shade Trees to Shade Sidewalks
0.5	Project Provides Street Art and/or Street Furniture
0.5	Provide Pedestrian Safety Designs/Infrastructure at Crossings
0.25	Articulated Storefront(s) Display Windows with Visual Interest
0.25	No Long Uninterrupted Walls Along Pedestrian Walkways
6.5	<- Totals

Bicycle Enhancing Infratructure Measures (Residential)

% Trips Reduced	Measure
7	Credit for Surrounding Bicycle Environment
7	<- Totals

Bike Enhancing Infrastructure Measures (Non-Residential)

% Trips Reduced	Measure
5	Credit for Surrounding Area Bike Environment
2	Provide Bike Lanes/Paths Connecting to Bikeway System
1	Provide Securre Bicycle Parking
1	Provide Employee Lockers and Showers
9	<- Totals

Operational Measures (Applying to Commute Trips)

% Trips Reduced	Measure
1.5	Preferential Carpool/Vanpool Parking
1	Parking Limited (below minimum)
1	Employee Rideshare Incentive Program
3.5	<- Totals

Operational Measures (Applying to Employee Non-Commute Trips)

% Trips Reduced	Measure
3	Some Frequently Needed Services Provided
3	<- Totals

Operational Measures (Applying to Customer Trips)

% Trips Reduced	Measure
0	<- Totals

Measures Reducing VMT (Non-Residential)

VMT Reduced	Measure
0	<- Totals

Measures Reducing VMT (Residential)

VMT Reduced	Measure
0	<- Totals

Total Percentage Trip Reduction
with Environmental Factors and Mitigation Measures

Travel Mode	Home-Work Trips	Home-Shop Trips	Home-Other Trips
Pedestrian	0.12	0.46	0.46
Transit	5.18	1.14	1.40
Bicycle	4.73	4.73	4.73
Totals	10.02	6.33	6.59

Travel Mode	Work Trips	Employee Trips	Customer Trips
Pedestrian	0.38	3.42	3.42
Transit	5.18	0.10	5.18
Bicycle	6.07	6.07	6.07
Other	0.84	0.36	0.00
Totals	12.48	9.96	14.68

Changes Made to the Default Values

Operational/Vehicle Related:
The passby option switch has been changed
The operational emissions mitigation switch has been changed
The default light duty auto fleet mix percentages or fuel/technology classes have been modified
The default medium duty truck fleet mix percentages or fuel/technology classes have been modified
The default medium heavy duty truck fleet mix percentages or fuel/technology classes have been modified
The default heavy heavy truck fleet mix percentages or fuel/technology classes have been modified
The default bus fleet mix percentages or fuel/technology classes have been modified
The default speeds have been modified

APPENDIX 6

URBEMIS 7G Model Run
2010 Airport Specific Plan Buildout

URBEMIS 7G: Version 3.1

File Name: ASP2010.URB
Project Name: Airport Specific Plan- 2010 Buildout
Project Location: Santa Barbara County

DETAILED REPORT - Summer

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2010 Temperature (F): 70 Season: Summer

EMFAC Version: EMFAC7G (10/96)

Summary of Land Uses:

Unit Type	Trip Rate	Size	Total Trips
Airport Specific Plan	31.04 trips / 1000 sq. ft	240.00	7,449.60

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Duty Autos	65.00	8.16	90.92	0.92
Light Duty Trucks	15.00	8.66	90.59	0.75
Medium Duty Trucks	5.00	0.90	99.10	
Lite-Heavy Duty Trucks	2.00	15.40	45.28	39.32
Med.-Heavy Duty Trucks	2.00	12.53	12.25	75.22
Heavy-Heavy Trucks	6.00			100.00
Urban Buses	2.00			100.00
Motorcycles	3.00			

100.00 % all fuels

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	11.6	8.9	10.5	11.6	9.4	9.4
Rural Trip Length (miles)	15.0	15.0	15.0	15.0	10.0	10.0
Trip Speeds (mph)	35	35	35	35	35	35
% of Trips - Residential	20.6	18.0	61.4			
% of Trips - Commercial (by land use)						
Airport Specific Plan				30.0	15.0	55.0

UNMITIGATED EMISSIONS

	ROG	NOx	CO	PM10
Airport Specific Plan	18.24	45.23	186.66	1.72
TOTAL EMISSIONS (tons/year)	18.24	45.23	186.66	1.72

Includes correction for passby trips.
Does not include double counting adjustment for internal trips.

MITIGATED EMISSIONS

	ROG	NOx	CO	PM10
Airport Specific Plan	15.94	39.20	161.85	1.49
TOTAL EMISSIONS (tons/year)	15.94	39.20	161.85	1.49

Includes correction for passby trips.
Does not include double counting adjustment for internal trips.

UNMITIGATED EMISSIONS

	ROG	NOx	CO	PM10
Airport Specific Plan	90.05	242.40	933.72	9.43
	ROG	NOx	CO	PM10
TOTAL EMISSIONS (lbs/day)	90.05	242.40	933.72	9.43

Includes correction for passby trips.
Does not include double counting adjustment for internal trips.

MITIGATED EMISSIONS

	ROG	NOx	CO	PM10
Airport Specific Plan	78.74	210.06	809.61	8.17
	ROG	NOx	CO	PM10
TOTAL EMISSIONS (lbs/day)	78.74	210.06	809.61	8.17

Includes correction for passby trips.
Does not include double counting adjustment for internal trips.

ENVIRONMENTAL FACTORS APPLICABLE TO THE PROJECT

Pedestrian Environment

2	Side Walks/Paths: Most Destinations Covered
1	Street Trees Provide Shade: Moderate Coverage
2	Pedestrian Circulation Access: Some Destinations
3	Visually Interesting Uses: Moderate Number and Variety
0	Street System Enhances Safety: No Streets
1	Pedestrian Safety from Crime: Moderate Degree of Safety
1	Visually Interesting Walking Routes: Moderate Level

10.0 <- Pedestrian Environmental Credit
10.0 /19 = 0.53 <- Pedestrian Effectiveness Factor

Transit Service

20	Transit Service: 15-30 Minute Bus within 1/4 Mile

20.0 <- Transit Effectiveness
10.0 <- Pedestrian Factor
30.0 <-Total
30.0 /110 = 0.27 <-Transit Effectiveness Factor

Bicycle Environment

5	Interconnected Bikeways: High Coverage
3	Bike Routes Provide Paved Shoulders: Most Major Destinations
0.5	Safe Vehicle Speed Limits: Few Destinations
0	Safe School Routes: No Schools
3	Uses w/in Cycling Distance: Large Number and Variety
2	Bike Parking Ordinance: Requires Secure Bike Parking

13.5 <- Bike Environmental Credit
13.5 /20 = 0.68 <- Bike Effectiveness Factor

MITIGATION MEASURES SELECTED FOR THIS PROJECT
(All mitigation measures are printed, even if
the selected land uses do not constitute a mixed use.)

Transit Infrastructure Measures

% Trips Reduced	Measure
15	Credit for Existing or Planned Community Transit Service
2	Provide Transit Shelters Benches
0.5	Provide Street Lighting
0.5	Provide Route Signs and Displays
1	Provide Bus Turnouts
19	<- Totals

Pedestrian Enhancing Infrastructure Measures (Residential)

% Trips Reduced	Measure
2	Credit for Surrounding Pedestrian Environment
2	<- Totals

Pedestrian Enhancing Infrastructure Measures (Non-Residential)

% Trips Reduced	Measure
2	Credit for Surrounding Pedestrian Environment
1	Mixed Use Project (Commercial Oriented)
1	Provide Wide Sidewalks and Onsite Pedestrian Facilities
0.5	Provide Street Lighting
0.5	Project Provides Shade Trees to Shade Sidewalks
0.5	Project Provides Street Art and/or Street Furniture
0.5	Provide Pedestrian Safety Designs/Infrastructure at Crossings
0.25	Articulated Storefront(s) Display Windows with Visual Interest
0.25	No Long Uninterrupted Walls Along Pedestrian Walkways
6.5	<- Totals

Bicycle Enhancing Infratructure Measures (Residential)

% Trips Reduced	Measure
7	Credit for Surrounding Bicycle Environment
7	<- Totals

Bike Enhancing Infrastructure Measures (Non-Residential)

% Trips Reduced	Measure
5	Credit for Surrounding Area Bike Environment
2	Provide Bike Lanes/Paths Connecting to Bikeway System
1	Provide Securre Bicycle Parking
1	Provide Employee Lockers and Showers
9	<- Totals

Operational Measures (Applying to Commute Trips)

% Trips Reduced	Measure
1.5	Preferential Carpool/Vanpool Parking
1	Parking Limited (below minimum)
1	Employee Rideshare Incentive Program

3.5 <- Totals

Operational Measures (Applying to Employee Non-Commute Trips)

% Trips Reduced	Measure
3	Some Frequently Needed Services Provided
3	<- Totals

Operational Measures (Applying to Customer Trips)

% Trips Reduced	Measure
0	<- Totals

Measures Reducing VMT (Non-Residential)

VMT Reduced	Measure
0	<- Totals

Measures Reducing VMT (Residential)

VMT Reduced	Measure
0	<- Totals

Total Percentage Trip Reduction
with Environmental Factors and Mitigation Measures

Travel Mode	Home-Work Trips	Home-Shop Trips	Home-Other Trips
Pedestrian	0.12	0.46	0.46
Transit	5.18	1.14	1.40
Bicycle	4.73	4.73	4.73
Totals	10.02	6.33	6.59

Travel Mode	Work Trips	Employee Trips	Customer Trips
Pedestrian	0.38	3.42	3.42
Transit	5.18	0.10	5.18
Bicycle	6.07	6.07	6.07
Other	1.05	0.45	0.00
Totals	12.68	10.05	14.68

Changes Made to the Default Values

Operational/Vehicle Related:
The passby option switch has been changed
The operational emissions mitigation switch has been changed
The default light duty auto fleet mix percentages or fuel/technology classes have been modified
The default medium duty truck fleet mix percentages or fuel/technology classes have been modified
The default medium heavy duty truck fleet mix percentages or fuel/technology classes have been modified
The default heavy heavy truck fleet mix percentages or fuel/technology classes have been modified
The default bus fleet mix percentages or fuel/technology classes have been modified
The default speeds have been modified

APPENDIX 7

Emissions Estimates for Airport Gateway Center Project Site- 1997 Existing Conditions and 2005 Project Buildout

APPENDIX 7

Vehicle and Energy Consumption Emissions from Existing (1997) Conditions on Airport Gateway Center Project Site
1998 URBEMIS 7G/EMFAC 7G ESTIMATES

	TONS PER YEAR				
SOURCE	**ROG**	**NOx**	**CO**	**SOX**	**PM10**
On-Road Vehicles	4.65	8.14	36.24	0.00	0.42
Energy Consumption	.002	.26	.045	0.00	0009
TONS/YEAR	**4.657**	**8.40**	**36.29**	**0.00**	**0.43**
	POUNDS PER DAY				
SOURCE	**ROG**	**NOx**	**CO**	**SOX**	**PM10**
On-Road Vehicles	22.81	43.32	175.80	0.00	2.24
Energy Consumption	0.012	1.41	.25	0.00	0.05
POUNDS PER DAY	**22.82**	**44.73**	**176.05**	**0.00**	**2.29**

SOURCES: City of Santa Barbara Planning Division, URBEMIS7G, SCAQMD 1993 CEQA Handbook

Gross Vehicle and Energy Consumption Emissions from the proposed Airport Gateway Center Project- 2005 Project Buildout
1998 URBEMIS 7G/EMFAC 7G ESTIMATES

	TONS PER YEAR				
SOURCE	**ROG**	**NOx**	**CO**	**SOX**	**PM10**
On-Road Vehicles	11.77	21.12	93.38	0.00	0.81
Energy Consumption	.0007	.91	.16	0.00	.03
TONS/YEAR	**11.77**	**22.03**	**93.54**	**0.00**	**.84**
	POUNDS PER DAY				
SOURCE	**ROG**	**NOx**	**CO**	**SOX**	**PM10**
On-Road Vehicles	57.84	112.83	461.28	0.00	4.46
Energy Consumption	0.04	4.99	.87	0.00	.17
POUNDS PER DAY	**57.88**	**117.82**	**462.15**	**0.00**	**4.63**

SOURCES: City of Santa Barbara Planning Division, URBEMIS7G, SCAQMD 1993 CEQA Handbook

APPENDIX 8

Comparison of URBEMIS 5 and 7G Model Runs for Airport Specific Plan and Airport Gateway Center

Airport Gateway Center and Airport Specific Plan
Air Quality Analysis
(all figures in lbs./day)

		URBEMIS 7G Mitigated	URBEMIS 7G Unmitigated	URBEMIS 5
Airport Specific Plan EIR 2010 Econ Dev Buildout	ROG	78.74	90.05	47.56
	NOX	210.06	242.4	198.2
	CO	809.61	933.72	615.35
	SOX	0	0	0
	PM10	8.17	9.43	38.44
Airport Gateway Center 1997 Existing Conditions	ROG	22.81	23.22	22.94
	NOX	43.32	44.15	27.82
	CO	175.8	179.15	154.27
	SOX	0	0	1.66
	PM10	2.24	2.28	3.9
2005 Project Buildout	ROG	57.84	66.21	6.2
	NOX	112.83	130.49	6.95
	CO	461.28	533.15	38.5
	SOX	0	0	0.44
	PM10	4.46	5.16	0.8
Difference from 1997 to 2005	ROG	35.03	42.99	-16.74
	NOX	69.51	86.34	-20.87
	CO	285.48	354	-115.77
	SOX	0	0	-1.22
	PM10	2.22	2.88	-3.1
Difference Between 2010 Specific Plan Buildout and 2005 Project Buildout	ROG	20.9	23.84	41.36
	NOX	97.23	111.91	191.25
	CO	348.33	400.57	576.85
	SOX	0	0	-0.44
	PM10	3.71	4.27	37.64
2005 Project Buildout As Percentage of 2010 Specific Plan Buildout	ROG	73.5%	73.5%	13.0%
	NOX	53.7%	53.8%	3.5%
	CO	57.0%	57.1%	6.3%
	SOX			
	PM10	54.6%	54.7%	2.1%

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