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ENVIRONMENTAL IMPACT REPORT

SCH No. 1989010088

ORANGE COUNTY FAIR AND EXPOSITION CENTER MASTER PLAN

VOLUME I

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DRAFT
ENVIRONMENTAL IMPACT REPORT

ORANGE COUNTY FAIR AND EXPOSITION CENTER MASTER PLAN

STATE CLEARINGHOUSE NUMBER: 1989010088

Submitted to:

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1.0 EXECUTIVE SUMMARY

This Executive Summary has been prepared according to the California Environmental Quality Act (CEQA) Guidelines Section 15123 for the 32nd District Agricultural Association (32nd DAA) Environmental Impact Report (EIR) for the proposed Orange County Fair and Exposition Center (OCFEC) Master Plan. This EIR has been prepared by the 32nd DAA to analyze the proposed project's potential impacts on the environment; to discuss alternatives; to identify Project Design Features and Standard Conditions that will offset, minimize, or otherwise avoid significant environmental impacts; and to propose mitigation measures for identified potentially significant impacts.

1.1 SUMMARY OF PROJECT DESCRIPTION

The 32nd District Agricultural Association is proposing to adopt and implement a Master Plan for the ±150 acre OCFEC. The proposed Master Plan project will involve removing and replacing existing structures, constructing new additional structures, reopening the amphitheater, constructing additional parking areas, and establishing a coherent and thematic landscape, sign, and lighting plan. In general, the project will result in a core facilities area surrounded by a parking area. Access from the parking area into the core area will be controlled by three major pedestrian gates and two minor access points. The architectural design and planning of the proposed project reflect that of a village center. The core of facilities will be divided into two general areas: a Park (open space) area and a Village (buildings) area. A series of pedestrian walkways will connect the two areas and allow for internal movement between areas of the Fairgrounds complex.

1.2 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Table 1.A lists the Standard Conditions that are to be applied to the proposed project, and summarizes the potential project impacts, mitigation measures, and any remaining unavoidable adverse impacts identified in this EIR. In addition, Table 1.A lists the Project Design Features that are incorporated into the proposed project that will assist in reducing the otherwise potential effects of development on the environment. Project design features (PDFs) are specific design components of the proposed project that have been incorporated to reduce its potential environmental effects.

The PDFs for this project include design characteristics and site plan components that combine with Standard Conditions to reduce 1) project impacts on the visual character and quality of the site and its surroundings, 2) light and glare impacts, and 3) visual intrusion impacts. Environmental topics that are addressed in the EIR include the following:

- Aesthetics
- Air Quality

- Biological Resources
- Cultural Resources
- Earth Resources and Topography
- Hydrology and Water Quality
- Land Use
- Noise
- Population and Housing
- Public Services and Utilities
- Recreation
- Traffic and Circulation

Where potentially significant impacts have been identified, mitigation measures are prescribed, if feasible, to further reduce project effects. With certain exceptions, these mitigation measures will reduce the extent of the impact to below a level of significance. These exceptions, or "unavoidable adverse impacts," are as follows:

- Contribute to short-term regional nitrogen dioxide (NO_X) and fugitive dust (PM_{10}) air pollutant levels in exceedance of State thresholds during construction; and
- Contribute to long-term regional NO_X, carbon monoxide (CO), and reactive organic compounds (ROC) air pollutant levels in exceedance of State thresholds during operation of the facility.

This EIR also considers the following alternatives to the proposed project:

- Alternative 1—No Build/No Project
- Alternative 2—Design Alternative A
- Alternative 3—Design Alternative B
- Alternative 4—Design Alternative C
- Alternative 5—Mixed-Use Commercial-Residential Alternative
- Alternative 6—Low Density Residential Alternative
- Alternative 7—Alternative Location

1.3 AREAS OF CONTROVERSY

The following issues pertaining to the proposed project may be controversial:

- Reducing the acreage of the Equestrian Center from approximately 11.5 acres to approximately 7.5 acres
- Reopening the Amphitheater

The proposed project will reduce the acreage of the Equestrian Center from 11.5 to 7.5 acres. Although none of the horses presently boarded at the facility will be displaced and none of the activities presently available at the facility will be eliminated, the effect of converting a portion of the Equestrian Center to additional parking represents a potential area of controversy as existing equestrian facilities are limited in the County of Orange.

The proposed project will reopen the Amphitheater. A history of litigation surrounding operation of the Amphitheater and noise impacts on local residents make this a potential area of controversy.

1.4 ISSUES TO RESOLVED

Issues to be resolved for the proposed project include the following:

- Those final determinations to be made by the 32nd DAA as to whether the benefits of the project outweigh the unavoidable impacts of the project related to air quality identified in this EIR.

Table 1.A—Summary of Project Design Features, Project Impacts, and Mitigation Measures

4.1 AESTHETICS

PROJECT DESIGN FEATURES

PDF 1-1 **Conceptual Landscape Plan.** The proposed Master Plan includes a Conceptual Landscape Plan and landscape guidelines that provide for groundcover shrubs and trees throughout the site. The landscaping provides visual relief and interest to views of the site, as well as visual relief to the perimeter wall along the property lines. This PDF will be confirmed by the California Construction Authority prior to issuance of the Notice to Proceed.

PDF 1-2 **Lighting Plan.** The proposed Master Plan includes a Lighting Plan. The Lighting Plan demonstrates that all outdoor lighting (street lights, parking lot security lights, parking structure lights, and building lights) will be designed so that all direct lighting is confined to the project site and that adjacent residential properties are protected from spillover light and glare. This PDF will be confirmed by the California Construction Authority prior to issuance of the Notice to Proceed.

PDF 1-3 **Streetscape Views.** The overall project design will create attractive streetscape views by using high-quality materials, neutral-toned buildings, and extensive on-site and street frontage landscape elements. This PDF will be confirmed by the California Construction Authority prior to issuance of the Notice to Proceed.

POTENTIAL SIGNIFICANT EFFECTS OF THE PROPOSED PROJECT

Impacts	Mitigation Measures	Level of Significance after Mitigation
The potential aesthetic impacts are not considered to be significant because: • The proposed project does not degrade the existing visual character of the site or its surroundings because of the low building heights, neutral toned building materials, and extensive use of landscape elements (Impact Significance Criterion 1-C); and • The changes to the lighting plan will not adversely affect adjacent uses because there are no sensitive receptors to the east of the project site where the new light standards are to be installed and because new lighting fixtures will not increase the intensity of lighting levels above present conditions (Impact Significance Criterion 1-D).	No specific mitigation measures for aesthetics are necessary.	With implementation of PDFs and Standard Conditions from Section 4.1, there will be no significant unavoidable aesthetics impacts as a result of the proposed project.

Table 1.A—Summary of Project Design Features, Project Impacts, and Mitigation Measures (Continued)

4.2 AIR QUALITY

PROJECT DESIGN FEATURES

There are no specific project design features for air quality incorporated into the proposed project.

POTENTIAL SIGNIFICANT EFFECTS OF THE PROPOSED PROJECT

Impacts	Mitigation Measures	Level of Significance After Mitigation
Short-Term Construction Related Impacts Air quality impacts would occur during construction of the proposed project from soil disturbance and equipment exhaust. Major sources of emissions during grading and site preparation include exhaust emissions from construction vehicles and equipment and fugitive dust generated by construction vehicles and equipment traveling over exposed surfaces, as well as by soil disturbances (for example, berm removal) from grading and backfilling. Nitrogen oxide (NO_X) emissions would exceed SCAQMD daily thresholds under all construction schedules analyzed. Fugitive dust emissions (PM_{10}) would also exceed SCAQMD thresholds.	***Mitigation Measure 2-1*** In order to reduce short-term construction impacts from emissions from equipment and vehicles, prior to issuance of the Notice to Proceed, the following measures shall be included on construction plans and in all construction contracts, to the satisfaction of the California Construction Authority: • The Construction Contractor shall select the construction equipment used on site based on low emission factors and high energy efficiency, as reported by the federal government. • The Construction Contractor shall ensure that construction plans include a statement that work crews must shut off equipment when not in use. During smog season (May through October) the overall length of the construction period will be extended, thereby decreasing the size of the area prepared each day, to minimize vehicles and equipment operating at the same time. • The Construction Contractor shall utilize electric or diesel powered equipment in lieu of gasoline powered engines, where feasible. • The Construction Contractor shall ensure that construction grading plans include a statement that all construction equipment will be tuned and maintained in accordance with the manufacturer's specifications.	The proposed project will result in significant unavoidable adverse impacts on air quality due to emissions of NO_X and PM_{10}. Mitigation Measures 2-1 through 2-5 are required to reduce emissions from construction equipment and fugitive dust impacts; however, short-term air quality impacts will remain significant for NO_X and PM_{10} even after implementation.

Table 1.A—Summary of Project Design Features, Project Impacts, and Mitigation Measures (Continued)

- The Construction Contractor shall time the construction activities so as not to interfere with peak hour traffic and so as to minimize obstruction of through traffic lanes adjacent to the site; if necessary, a flag person shall be retained to maintain safety adjacent to existing roadways.
- The Construction Contractor shall provide ridesharing and transit incentives for the construction crew, such as free bus passes and preferred carpool parking.

Mitigation Measure 2-2

In order to reduce fugitive dust from construction activities, the following shall be implemented by the applicant prior to commencement of grading or excavation:

Prior to issuance of the Notice to Proceed, the California Construction Authority shall verify that the following provisions are included in the grading contractor's contract:

1. During clearing, grading, earthmoving, excavation, or transportation of cut or fill materials, water trucks or sprinkler systems shall be used to prevent dust from leaving the site and to create a crust after each day's activities cease.

2. During construction, water trucks or sprinkler systems shall be used to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this would include wetting down such areas in the late morning, after work is completed for the day, and whenever wind exceeds 15 miles per hour.

3. Immediately after clearing, grading, earthmoving, or excavation is completed, the entire area of disturbed

Table 1.A—Summary of Project Design Features, Project Impacts, and Mitigation Measures (Continued)

soil shall be treated until the area is paved or otherwise developed so that dust generation will not occur.

4. Soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binder to prevent dust generation.

Mitigation Measure 2-3

In order to reduce fugitive dust from on-site and off-site vehicle activity, the following measures shall be implemented by the applicant and the contractor during the period of construction:

The California Construction Authority shall verify that the following provisions are included in the grading contractor's contract prior to issuance of the Notice to Proceed:

1. All trucks hauling, dirt, sand, soil, or other loose materials are to be covered, or shall maintain at least two feet of freeboard in accordance with the requirements of California Vehicle Code section 23114 ("freeboard" means vertical space between the top of the load and top of the trailer); covering shall be tightly secured to truck.
2. Sweep adjacent streets once a day if visible soil materials are carried to adjacent streets (recommend water sweepers with reclaimed water). Sweep streets immediately after period of heaviest vehicular track-out activity.
3. Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and any equipment leaving the site each trip. Set up truck washing area on paved access road area so subsequent truck travel on unpaved roads can be eliminated.

Table 1.A—Summary of Project Design Features, Project Impacts, and Mitigation Measures (Continued)

4. Pave or provide gravel roadbed on all on-site construction access roads at least 100 feet onto the site from main road.
5. Apply water three times daily, or apply non-toxic soil stabilizers, according to manufacturers' specifications, to all inactive construction areas (previously graded areas inactive for 10 days or more).
6. Traffic speeds on all unpaved roads shall be reduced to 15 mph or less; effective traffic control or signage shall be installed and maintained.
7. Daily and weekly monitoring reports by the monitor, acceptable to the 32nd DAA Board of Directors and the California Construction Authority, shall be submitted to the California Construction Authority Project Manager, by the contractor.

Mitigation Measure 2-4

A construction and construction related activity monitor satisfactory to the 32nd DAA Board of Directors and the California Construction Authority shall be retained by the applicant prior to issuance of the Notice to Proceed. The monitor shall monitor all activity on a daily basis, keep written daily records, and file daily activity reports with the California Construction Authority Project Manager, for the duration of grading and construction. The monitor shall be employed by the OCFEC or California Construction Authority, and shall file reports with the California Construction Authority Project Manager. The monitor shall report on the following strategies:

- Construction equipment exhaust shall be minimized by use of the following:
  - NO_X control technologies, such as fuel injection timing retard for diesel engines and air to air after cooling.

Table 1.A—Summary of Project Design Features, Project Impacts, and Mitigation Measures (Continued)

	◦ Low sulfur fuel. ◦ Well maintained equipment and proper planning to minimize trips/use. ◦ Log fuel use, hours of operation, and periodic maintenance. • Fugitive dust shall be controlled as specified in Mitigation Measures 2-2 and 2-3, and SCAQMD rules and regulations. • Restrict delivery of construction supplies and off-site hauling of debris to non-peak travel periods whenever feasible, except for concrete and earthwork related activities. • Construction worker travel in carpools shall be encouraged by common carpool registry, maintained at the construction site and managed by the applicant. • Application of building materials and architectural coatings shall be controlled by applicable SCAQMD rules and Mitigation Measure 2-5.	
Architectural Coatings Reactive/volatile organic compounds (VOC) are contained in architectural coatings and are part of the ozone precursors. The project does not result in VOC emissions that exceed thresholds of significance; however, Mitigation Measure 2-2 will further reduce the proposed project's VOC emissions from architectural coatings.	***Mitigation Measure 2-5*** In order to reduce short-term construction emissions, the following mitigation measure shall be included on construction plans. The California Construction Authority shall verify inclusion of this measure prior to issuance of the Notice to Proceed. The construction contractor shall utilize precoated/natural color building materials, water based or low VOC coating, and coating transfer or spray equipment with high transfer efficiency, such as the high volume low pressure (HVLP) spray method, or use manual coating application methods such as the paint brush, hand roller, trowel, spatula, dauber, rag, or sponge.	As a result of Mitigation Measure 2-5 and the use of natural building materials, any impacts from architectural coatings will be less than significant.

Table 1.A—Summary of Project Design Features, Project Impacts, and Mitigation Measures (Continued)

Long-Term Air Quality Impacts

Long-term air emission impacts are those associated with stationary sources and mobile sources related to any change occurring as a result of the proposed project. Implementation of the proposed Master Plan would result in significant long-term air quality impacts due to emissions of carbon monoxide (CO), nitrogen oxide (NO_X) and reactive organic compounds (ROC) generated by increased vehicle traffic under some, but not all, operational scenarios. The air quality impacts for each operational scenario analyzed are summarized below.

- Typical Weekend—No project related emissions.
- Interim Event—Less than significant air quality impacts.
- Interim Event with Concert—Significant air quality impacts from emissions of CO, NO_X and ROC.
- Fair Event—Less than significant air quality impacts.

There are no feasible mitigation measures to reduce the potential air quality impacts associated with the Interim Event with Concert scenario to below a level of significance.

The proposed project would have a significant unavoidable adverse impact under the Interim Event with Concert Scenario due to lack of feasible mitigation measures to reduce vehicular trip related emissions.

Table 1.A—Summary of Project Design Features, Project Impacts, and Mitigation Measures (Continued)

4.3 BIOLOGICAL RESOURCES		
PROJECT DESIGN FEATURES		
There are no specific project design features for biological resources incorporated into the proposed project.		
POTENTIAL SIGNIFICANT EFFECTS OF THE PROPOSED PROJECT		
Impacts	**Mitigation Measures**	**Level of Significance After Mitigation**
The proposed project will not affect any listed or candidate plants or animals nor will any suitable habitat for these species be substantially affected (Criteria 3-A and 3-B). In addition, the project site is in an urban setting and is already developed as a fairgrounds facility completely isolated from any wildlife corridor. As such, the proposed project will not result in any additional interference to migratory species than already exists (Impact Significance Criterion 3-C). The proposed project does not conflict with any adopted environmental plans, goals, or policies, nor will it result in notable net loss of a biotic community that is subject to local, State, and/or federal regulation (Impact Significance Criteria 3-D and 3-F).	No mitigation measures are necessary for biological resources.	The proposed project will not cause any significant impacts to biological resources; therefore, no significant unavoidable adverse impacts will result.

Table 1.A—Summary of Project Design Features, Project Impacts, and Mitigation Measures (Continued)

4.4 CULTURAL RESOURCES		
PROJECT DESIGN FEATURES		
There are no specific project design features for cultural resources incorporated into the proposed project.		
POTENTIAL SIGNIFICANT EFFECTS OF THE PROPOSED PROJECT		
Impacts	**Mitigation Measures**	**Level of Significance After Mitigation**
The potential impacts of the proposed project on cultural resources are not considered to be significant because: • A records search through the South Central Coastal Information Center of the California Historical Resource Information System was conducted for the Fairgrounds property and yielded no information on previously recorded archaeological or historic resource sites within the study area; • The OCFEC does not contain any physiographic features such as stream courses or knolls that would have attracted Native American settlement to the study area; • Due to the high level of disturbance through agricultural, military, and Fair use of the project area, it is unlikely that any significant archaeological resources will be identified; and • None of the buildings on the OCFEC from the Santa Ana Army Air Base retain their integrity or ability to convey historical significance. The following three mitigation measures are included as precautionary measures to ensure that significant impacts do not occur.	***Mitigation Measure 4-1*** Prior to issuance of the Notice to Proceed, the California Construction Authority shall verify that a County of Orange certified paleontologist has been retained to observe grading activities and salvage and catalogue fossils as necessary. The paleontologist shall be present at the pregrading conference, shall establish procedures for paleontological resource surveillance, and shall establish, in cooperation with the OCFEC and the California Construction Authority, procedures for temporarily halting or redirecting work to permit sampling, identification, and evaluation of the fossils. If major paleontological resources are discovered, the paleontologist shall determine appropriate actions, in cooperation with the project developer, to ensure proper exploration and/or salvage. Excavated finds shall be offered to the County of Orange, or its designee, on a first refusal basis. If any paleontological resources are found, the paleontologist shall submit a follow-up report which shall include the period of inspection, a catalogue and analysis of the fossils found, and present repository of the fossils to the Orange County Natural History Museum. ***Mitigation Measure 4-2*** Prior to issuance of the Notice to Proceed, the California Construction Authority shall verify that a County of Orange certified archaeologist has been retained, shall be present at the pregrading conference, shall establish procedures for archaeological resource surveillance, and shall establish, in cooperation with the OCFEC and the California Construction Authority, procedures for	With the implementation of Mitigation Measures 4-1 through 4-3, all potential impacts to cultural and historical resources are reduced to less than significant levels.

Table 1.A—Summary of Project Design Features, Project Impacts, and Mitigation Measures (Continued)

temporarily halting or redirecting work to permit sampling, identification, and evaluation of the artifacts as appropriate. If the archaeological resources are found to be significant, the archaeological observer shall determine appropriate actions, in cooperation with the OCFEC and the California Construction Authority, for exploration and/or salvage. The archaeologist shall submit a follow-up report to the Orange County Natural History Museum which shall include the period of inspection, a catalogue and analysis of any artifacts found, and present repository of the artifacts. Excavated finds shall be offered to the County of Orange, or designee, on a first refusal basis.

Mitigation Measure 4-3

If human remains are encountered during the course of construction, project-related activities in the immediate vicinity of the find will be temporarily diverted. The County Coroner will be contacted within 24 hours. The County Corner will determine whether the remains are recent. If the remains are determined to be Native American in origin, the Native American Heritage Commission will be contacted immediately to determine the most likely descendant (MLD). The MLD will have the opportunity to become involved with the final disposition of the remains following scientific analysis.

Table 1.A—Summary of Project Design Features, Project Impacts, and Mitigation Measures (Continued)

4.5 EARTH RESOURCES/TOPOGRAPHY

PROJECT DESIGN FEATURES

PDF 5-1 **Zone 4 Criteria.** The proposed project will be designed and constructed in accordance with applicable portions of Zone 4 criteria from the current Uniform Building Code (UBC), the Uniform Fire Code, the County of Orange Grading Manual, and other applicable federal and State codes. Adherence will minimize, to the extent feasible, any damage or injury caused by seismic ground shaking. This project design feature will be verified by the California Construction Authority during plan check and prior to issuance of the Notice to Proceed.

POTENTIAL SIGNIFICANT EFFECTS OF THE PROPOSED PROJECT

Impacts	Mitigation Measures	Level of Significance After Mitigation
Changes in Topography There are no unique geologic features on or adjacent to the project site that would be significantly reduced or eliminated by the proposed project. The grading and earthmoving required for implementation of the proposed project will alter only previous modified land; therefore, the effects of the proposed project on landform and topography are considered to be less than significant (Impact Significance Criterion 5-8).	No additional mitigation measures are not necessary.	With implementation of Standard Conditions 5-1 and 5-2, any potential impacts are reduced to below a level of significance.
Landslides, Soil, and Seismic Hazards There are no hillsides in the immediate vicinity of property and no likelihood of exposure of people or property to geological hazards, such as slides or ground failure, that could not be rectified by implementing standard design measures and/or construction and maintenance practices (Impact Significance Criteria 5-1 and 5-2). The site is subject to ground shaking from earthquakes, as is the entire Southern California region, however, the project site is not located in an Alquist Priolo Earthquake Fault Zone or within a known active fault zone or an area characterized by surface rupture that might be related to a fault. The nearest fault is approximately three miles southwest of the project site. The project site has not been subject to ground rupture in its history nor would it likely be subject to ground rupture from seismic events in the future (Impact Significance Criteria 5-5 and 5-6).	***Mitigation Measure 5-1*** Prior to issuance of the Notice to Proceed, project grading plans and structural plans for all buildings shall incorporate soil and seismic foundation recommendations of an updated soils and geotechnical report. In the updated soils and geotechnical report, the geotechnical engineer shall recommend one or more of the following measures, or other measures as determined appropriate, to treat expansive soils: presaturation of subgrade soils, increased reinforcement of concrete foundation elements, increased foundation embedment, use of post-tensioned grade beams and floor slabs, blanketing the surface with nonexpansive compacted fill, blending expansive soils with nonexpansive soils, chemical stabilization, and/or increased jointing of building improvements. During design and grading, expansive soils shall not be placed or left at or near final grade unless special design	Implementation of Mitigation Measure 5-1 will reduce these potential impacts to below a level of significance.

Table 1.A—Summary of Project Design Features, Project Impacts, and Mitigation Measures (Continued)

Due to the absence of a shallow water table (i.e., groundwater depth is more than 20 feet below the surface) and the moderately high density of soil materials beneath the site, the risk of liquefaction is considered negligible (Impact Significance Criterion 5-5).

The extremely thick alluvial deposits that underlie the area are subject to differential settlement during intense shaking associated with seismic events. This type of seismic hazard results in damage to property when an area settles to different degrees over a relatively short distance. The actual potential for settlement is, however, difficult to predict. In the history of the Fairgrounds, no record or indication of differential settlement has been noted (Impact Significance Criterion 5-7).

Expansive soils are present on the site, and structural damage, such as cracking, heaving, and buckling of foundations, could occur if soils are not properly prepared during construction. Expansive and unconsolidated soils represent a potentially significant impact prior to mitigation.

and construction procedures are planned to offset the effects of such soils. If deemed necessary during grading operation, soil placement shall be supervised by the project's geotechnical engineer.

During plan check and prior to issuance of the Notice to Proceed, the California Construction Authority shall confirm that recommended site preparation and compaction features are noted on all building plans and implemented as part of the construction level geologic review and investigation for the proposed project design.

Table 1.A—Summary of Project Design Features, Project Impacts, and Mitigation Measures (Continued)

4.6 HYDROLOGY AND WATER QUALITY

PROJECT DESIGN FEATURES

There are no specific project design features for hydrology and water quality that have been incorporated into the proposed project beyond those contained in the drainage system plan that are being analyzed as part of the proposed project.

POTENTIAL SIGNIFICANT EFFECTS OF THE PROPOSED PROJECT

Impacts	Mitigation Measures	Level of Significance After Mitigation
Surface Water Runoff Although the proposed project would alter surface flow patterns, the site is already developed and is surrounded by urban development. There are no natural stream courses that would be affected, and, because the site is topographically flat, the change in drainage pattern with the proposed storm drain system is not considered significant. The proposed project would not exceed Impact Significant Criterion 6-A. The proposed drainage system will be designed and constructed in accordance with the requirements of the Orange County Hydrology Manual. At present the project site contributes to flooding on Arlington Drive. The proposed project reduces the overall site runoff and incorporates sitewide drainage system improvements. Approval from the City of Costa Mesa will be required for modification and improvements to the storm drain system on Arlington Drive needed to fully implement the proposed project. Any improvements to the Arlington Drive storm drain will be a joint project between the City and the OCFEC. Project implementation will reduce impacts related to Impact Significance Criterion 6-B to below a level of significance.	No additional mitigation measures are necessary for impacts related to surface water runoff.	Implementation of the project storm drain improvements will reduce impacts associated with surface drainage to less than significant levels.
Water Quality Possible sources of pollution generated by the project could include the following: • Oil, grease, and other motor vehicle fluids on paved areas, including entry access roads, parking lots, parking garages, and service delivery areas;	***Mitigation Measure 6-1*** The proposed project must file a Notice of Intent (NOI) to apply for General Permit coverage prior to the commencement of construction activity. A Storm Water Pollution Prevention Plan (SWPPP) will be prepared in accordance with SWRCB Order No. 92-08-DWQ. The	With implementation of project BMPs and Mitigation Measures 6-1 through 6-3, impacts related to water quality will be reduced to below a level of significance.

Table 1.A—Summary of Project Design Features, Project Impacts, and Mitigation Measures (Continued)

- Litter and trash left in parking areas, streets, and other storm conveyance paths and sheet flow locations;
- Sediments and fine sands resulting from construction activities;
- Nitrates, phosphorus, bacteria, and salt from Equestrian facilities;
- Vegetative debris from onsite and off site landscaping; and
- Fertilizers and pesticides from landscaped areas.

Runoff from the project site ultimately drains into Upper Newport Bay, and without any water quality treatment measures, it can be assumed that the project site—in its existing condition—is a contributor to the water quality problems that exist in the Upper Newport Bay. The proposed project addresses existing water quality issues through the implementation of BMPs, adherence to the NPDES Storm Water Permits and Mitigation Measures 6-1 through 6-3. Impacts related to Impact Significance Criterion 6-C are reduced to below a level of significance.

SWPPP shall be submitted to the Santa Ana RWQCB for review and comment. The SWPPP shall include a surface water control plan and erosion control plan to be implemented during construction. The SWPPP will emphasize structural and nonstructural BMPs to control sediment and nonvisible discharges from the site. Some of the BMPs to be implemented include the following:

- Sediment discharges from the site may be controlled by the following: sandbags, silt fences, straw wattles and temporary debris basins (if deemed necessary), and other discharge control devices. The construction and condition of the BMPs will be periodically inspected during construction, and repairs will be made when necessary as required by the SWPPP.
- All materials that have the potential to contribute nonvisible pollutants to storm water must not be placed in drainage ways and must be contained, elevated, and placed in temporary storage containment areas.
- All loose piles of soil, silt, clay, sand, debris, and other earthen material shall be protected in a reasonable manner to eliminate any discharge from the site into the existing and proposed storm drain system. Stockpiles will be surrounded by silt fences and covered with plastic tarps.
- The SWPPP will include inspection forms for routine monitoring of the site during the construction phase to ensure NPDES compliance.
- Additional BMPs and erosion control measures will be documented in the SWPPP and utilized if necessary.
- A Sampling and Analysis Plan (SAP) will also be included in the SWPPP that outlines a monitoring and sampling plan in accordance with SWRCB Resolution 2001-046.

Table 1.A—Summary of Project Design Features, Project Impacts, and Mitigation Measures (Continued)

	The SWPPP will be kept on site for the entire duration of project construction and will also be available to the local RWQCB for inspection at any time. This measure will be verified by the California Construction Authority prior to issuance of the Notice to Proceed.	
	Mitigation Measure 6-2	
	The Construction Contractor shall be responsible for performing and documenting the application of BMPs identified in the Storm Water Pollution Prevention Plan (SWPPP). Weekly inspections shall be performed on the sand bag barriers and other sediment control measures called for in the SWPPP. Monthly reports shall be maintained by the California Construction Authority Project Manager. Inspection records and compliance certification reports shall be submitted to the California Construction Authority Project Manager on a monthly basis and shall be maintained for a period of three years. Inspection schedules shall be monthly during the dry season and weekly during the wet season. The contractor shall inspect BMP facilities before and after every rainfall event that is predicted to produce observable runoff, and at 24 hour intervals during extended rainfall events, excepting days when there is no ongoing site activity. Pre-storm activities will include inspection of the major storm drain grate inlets and examination of other on-site surface flow channels and swales, including the removal of any debris that blocks the flow path. Post-storm activities will include inspection of the grate inlets, looking for any ponded water on the site and determining the cause, and looking for surface erosion. The Construction Contractor shall implement corrective actions specified by the California Construction Authority Inspector, as necessary.	

Table 1.A—Summary of Project Design Features, Project Impacts, and Mitigation Measures (Continued)

	Mitigation Measure 6-3 The 32nd DAA shall submit and obtain approval of the Water Quality Management Plan (WQMP) from the City of Costa Mesa, Director of Development Services. The WQMP shall specifically identify Best Management Practices (BMPs) that will be used on site to control predictable pollutant runoff. Prior to issuance of the Notice to Proceed, the California Construction Authority will verify that approval from the City has been obtained for the WQMP.	
Changes in Quantity or Quality of Groundwater The proposed project will not affect local groundwater either by withdrawal or excavation work. Groundwater is located more than 20 feet below the surface. The proposed project does not meet or exceed Impact Significance Criterion 6-D.	No mitigation is necessary.	The proposed project will not generate any significant unavoidable adverse impacts related to groundwater.
Flooding The project site is located in Flood Zone C on the Flood Insurance Rate Map. Zone C is the designation for areas of minimal flooding (no hazard). The project storm drain system will provide 100-year frequency flood protection via the proposed storm drains. The project storm drain system will provide more than adequate flood protection so that potential flooding impacts will be less than significant. The proposed project does not meet or exceed Impact Significant Criteria 6-E or 6-F.	No mitigation is necessary	The proposed project will not generate any significant unavoidable adverse impacts related to flooding.

Table 1.A—Summary of Project Design Features, Project Impacts, and Mitigation Measures (Continued)

4.7 LAND USE

PROJECT DESIGN FEATURES

PDF 7-1 **Uniform Building Code and Uniform Fire Code.** Project design will comply with all applicable Uniform Building and Uniform Fire Code requirements. This PDF will be verified by the California Construction Authority prior to issuance of the Notice to Proceed.

PDF 7-2 **Safe Entrances.** Maintain safe points of ingress/egress to and from the surrounding street network. This PDF will be verified by the California Construction Authority prior to issuance of the Notice to Proceed.

PDF 7-3 **Landscape Perimeter.** The proposed Master Plan includes a landscape plan and guidelines that provide for landscaping throughout the site. As part of the Master Plan, landscaping improvements will provide visual relief to perimeter walls along the property line. This PDF will be verified by the California Construction Authority prior to issuance of the Notice to Proceed.

POTENTIAL SIGNIFICANT EFFECTS OF THE PROPOSED PROJECT

Impacts	Mitigation Measures	Level of Significance After Mitigation
The potential land use impacts are not considered significant because: • The proposed project is consistent with both the General Plan and the Zoning Code for the City of Costa Mesa (Impact Significance Criterion 7-A). • There is no direct division of an established community or physical taking of existing land uses by the proposed project (Impact Significance Criterion 7-B). • The analysis of individual impacts indicates that there are few significant impacts that would create substantial conflicts with adjacent land uses (Impact Significance Criterion 7-C). Conflicts between the OCFEC and surrounding land uses exist at present and are not a result of the project analyzed here. • The proposed project will not convert agricultural land to nonagricultural uses or involve other changes that could result in conversion of agricultural land to nonagricultural uses (Impact Significance Criteria 7-D and 7-E).	No mitigation measures for land use are required.	The proposed project will not result in any significant unavoidable adverse impacts to land use.

Table 1.A—Summary of Project Design Features, Project Impacts, and Mitigation Measures (Continued)

4.8 NOISE

PROJECT DESIGN FEATURES

There are no specific project design features related to noise that have been incorporated into the proposed project.

POTENTIAL SIGNIFICANT EFFECTS OF THE PROPOSED PROJECT

Impacts	Mitigation Measures	Level of Significance After Mitigation
Short Term /Construction Noise Impacts Construction related noise from the project can be expected. The associated increase in long-term traffic noise will not be perceptible, however, there may be short-term intermittent high noise levels associated with construction trucks from the project site. There will also be short-term noise impacts related to the noise generated by heavy equipment operating on the project site.	***Mitigation Measure 8-1*** During project construction, the construction superintendent shall implement the following measures to reduce construction noise impacts: a) Limit construction hours to between 7:00 a.m. and 7:00 p.m. Monday through Saturday; construction is not permitted on Sundays and federal holidays; b) Properly muffle and maintain all internal combustion engines used for construction on the site; c) Locate all stationary noise generating sources, such as air compressors and portable power generators, as far away as feasible from homes (and classrooms when school is in session); and d) Prohibit unnecessary idling of internal combustion engines. Notations in the above format, appropriately numbered and included with other notations on the front sheet of grading plans, will be considered as adequate evidence of compliance with this mitigation measure. The California Construction Authority will verify the inclusion of notations during plan check and prior to issuance of the Notice to Proceed.	With implementation of mitigation measure 8-1, potential short-term noise impacts would be reduced to below a level of significance.

Table 1.A—Summary of Project Design Features, Project Impacts, and Mitigation Measures (Continued)

On site Stationary Source Noise Impacts The arena and amphitheater are two potential onsite noise sources. The arena is sufficiently buffered from sensitive receptors by distance and traffic noise from SR-55. The proposed relocation of the arena would have a negligible noise attenuation effect. Noise levels associated with non-fair concert events in the amphitheater may be significant. Use of the amphitheater for non-fair concert events warrants implementation of Mitigation Measure 8-2.	***Mitigation Measure 8-2*** Should the 32nd DAA Board of Directors decide to use the amphitheater for nonfair concert events, all or any combination of the following mitigation measures may need to be applied to meet the requirements of the 1990 Order: • Partial walls; • Partial enclosure (walls and a portion of a roof); • Full enclosure; and • Noise control and monitoring at the source. If partial enclosure is considered, the opening of the enclosure will be designed so that it is not open to the direction of any noise sensitive land uses. In addition, sound absorptive material or finish is to be used on the interior surface of the partial enclosure to reduce the potential of noise leaking out of the enclosure.	Implementation of mitigation measure 8-2 will reduce noise impacts from non-fair amphitheater use to below a level of significance.
Long Term/Traffic Noise Impacts The noise impact analysis for the proposed project was based on the same operating scenarios used in the Traffic Impact Analysis for the proposed project. The increase in noise levels is small and is not perceptible by the human ear in an outdoor environment over time.	No mitigation is required.	There would be no significant impacts from traffic noise associated with the proposed project.

Table 1.A—Summary of Project Design Features, Project Impacts, and Mitigation Measures (Continued)

4.9 POPULATION AND HOUSING

PROJECT DESIGN FEATURES

There are no specific project design features related to population and housing that have been incorporated into the proposed project.

POTENTIAL SIGNIFICANT EFFECTS OF THE PROPOSED PROJECT

Impacts	Mitigation Measures	Level of Significance After Mitigation
The potential population and housing impacts of the proposed OCFEC Master Plan are not considered to be significant because: • No existing housing would be displaced because the site is currently developed as a fairground facility (Impact Significance Criterion 9-A). • The proposed project would not induce substantial population growth as it is neither a residential development nor a project that would generate substantial new job opportunities (Impact Significance Criterion 9-B). • The proposed project will not cause an increase in the number of employees who, because of housing prices or pay scale, cannot find housing within a 30 minute commute from the project site. During the summer fair, additional fair and summer staff are housed temporarily on the premises or drawn from the local existing population and the surrounding areas (Impact Significance Criterion 9-C).	No mitigation measures are necessary.	The proposed project will not result in any unavoidable adverse impacts to population and housing.

Table 1.A—Summary of Project Design Features, Project Impacts, and Mitigation Measures (Continued)

4.10 PUBLIC SERVICES AND UTILITIES

PROJECT DESIGN FEATURES

PDF 10-1	**Security Features.** Project design will facilitate implementation of "defensible space" measures to deter criminal activity within the project site. These measures may include, but are not limited to, strategically placed lighting, the use of plant materials to discourage window access, and ongoing maintenance of large or tall landscaping that could limit a law enforcement officer's ability to adequately visually survey the area while on patrol. This design feature will be verified by the California Construction Authority prior to issuance of the Notice to Proceed.
PDF 10-2	**Energy Efficient Appliances.** Pursuant to Title 24, California Code of Regulations (CCRs), the project design will incorporate the use of energy efficient appliances whenever feasible to minimize the ongoing use of electrical and natural gas resources. This design feature will be verified by the California Construction Authority during plan check (24 CCR).

POTENTIAL SIGNIFICANT EFFECTS OF THE PROPOSED PROJECT

Impacts	Mitigation Measures	Level of Significance After Mitigation
The potential impacts of the proposed project on public services and utilities are not considered to be significant because: • The demand generated by the project for specific public services does not exceed the capacity of existing systems; • The project's demands for fuel or energy does not exceed existing supplies; • The project's demand for utilities does not require major expansion or new facilities; and • The project will not cause significant disruption of service. Any potential impacts to public services and utilities are reduced to below significance with implementation of the following mitigation measures.	***Mitigation Measure 10-1*** Prior to issuance of the Notice to Proceed, the California Construction Authority shall submit to the Deputy State Fire Marshal evidence of the on-site fire hydrant system. Provisions shall be made by the OCFEC/32nd DAA for the repair and maintenance of the system, in a manner meeting the approval of the Deputy State Fire Marshal. ***Mitigation Measure 10-2*** **Automatic Sprinkler System.** A. All structures over 6,000 square feet shall be protected by an automatic sprinkler system, in a manner meeting the approval of the Deputy State Fire Marshal. B. Prior to construction, the California Construction Authority shall submit plans for any required automatic fire sprinkler system in any structure to the Office of the State Fire Marshal for review and approval.	With implementation of Mitigation Measures 10-1 through 10-7, all potential impacts to public services and utilities are less than significant.

Table 1.A—Summary of Project Design Features, Project Impacts, and Mitigation Measures (Continued)

C. Prior to building occupancy, this system shall be operational in a manner meeting the approval of the Deputy State Fire Marshal.

Mitigation Measure 10-3

A. Prior to issuance of the Notice to Proceed, the California Construction Authority shall submit and obtain approval of plans for all roads, streets, and courts, public or private, from the Deputy State Fire Marshal. The plans shall include the following:

- The plan view and the sectional view shall indicate the grade and width of the street or court, measured flow line to flow line.
- All proposed fire apparatus turnarounds shall be approved by the Deputy State Fire Marshal and, if needed, clearly marked when a dead-end street exceeds 150 feet or when otherwise required.
- Applicable construction drawings, or other approved documents, shall contain provisions that prohibit obstructions, such as speed bumps/humps, control gates, or other modifications within said easement or access road, unless prior approval is obtained from the Deputy State Fire Marshal.
- The locations of red curbing and signage and a drawing of the proposed signage with the height, stroke, and color of lettering and the contrasting background color

B. The fire lanes shall be installed in accordance with the approved fire lane plan prior to building occupancy. The construction drawings or other approved documents shall contain a fire lane map and provisions that prohibit parking in the fire lanes. The method of enforcement shall be documented.

Table 1.A—Summary of Project Design Features, Project Impacts, and Mitigation Measures (Continued)

Mitigation Measure 10-4

Prior to issuance of the Notice to Proceed, plans for the fire alarm system shall be submitted by the California Construction Authority to the Deputy State Fire Marshal for review and approval. This system shall be operational in a manner meeting the approval of the Deputy State Fire Marshal prior to building occupancy.

Mitigation Measure 10-5

Prior to construction, the builder shall submit a letter on company letterhead to the OCFEC General Manager stating that water for firefighting purposes and all-weather fire protection access roads shall be in place and operational before any combustible material is placed on site. The California Construction Authority shall verify inclusion of this measure on construction plans and in all construction contracts prior to issuance of the Notice to Proceed.

Mitigation Measure 10-6

Prior to issuance of the Notice to Proceed, the California Construction Authority shall provide the Costa Mesa Sanitary District with a map of the on-site sewers. All necessary permits required for connection to the sewer system will be obtained or renewed, as needed.

Mitigation Measure 10-7

Prior to issuance of the Notice to Proceed, the OCFEC and/or the California Construction Authority shall prepare a Waste Management Plan for approval by the 32nd DAA Board of Directors. Final design plans shall clearly identify the current number, capacity, and location of all bin enclosures and recycle containers.

Table 1.A—Summary of Project Design Features, Project Impacts, and Mitigation Measures (Continued)

4.11 RECREATION			
PROJECT DESIGN FEATURES			
PDF 11-1	**Bicycle Access.** Entrances will be designed in such a way that bicyclists will have easy access, including off-road connections, between the bikeways and bike racks/lockers. This design feature will be verified by the California Construction Authority prior to issuance of the Notice to Proceed.		
PDF 11-2	**Bike Racks.** Bike racks and/or lockers will be installed near all Fair entrances and in other appropriate areas throughout the site. This design feature will be verified by the California Construction Authority prior to issuance of the Notice to Proceed.		
POTENTIAL SIGNIFICANT EFFECTS OF THE PROPOSED PROJECT			
Impacts		**Mitigation Measures**	**Level of Significance After Mitigation**
The potential recreation impacts are not considered to be significant because: • The project is neither a residential development nor a project that would generate substantial new job opportunities. For this reason, the proposed project will not cause demand for neighborhood or regional parks or other recreational facilities to rise beyond existing capacity (Impact Significance Criterion 11-A). • The proposed project does not substantially affect or reduce existing recreational facilities to a service level below what is needed to meet current demand. The OCFEC is a regional recreational facility; the proposed project expands its capacity to serve regional recreational needs. Although the proposed Master Plan does call for a reduction in the size of the EQC, horses presently boarded at the site will not be displaced. Reducing the size of the EQC also does not reduce the range of activities occurring at this facility (Impact Significance Criterion 11-B). • The proposed OCFEC Master Plan is consistent with the City of Costa Mesa's General Plan designation and adheres to its designated use as a Fairground facility. It will not disrupt any regional trails maintained by the county (Impact Significance Criterion 11-C). There is nothing in the Master Plan that would prohibit this site from being used as a future staging area should the County trail ever be connected across SR-55.		No mitigation measures are necessary.	The proposed project will not result in any unavoidable adverse impacts to recreation facilities.

Table 1.A—Summary of Project Design Features, Project Impacts, and Mitigation Measures (Continued)

4.12 TRAFFIC AND CIRCULATION		
PROJECT DESIGN FEATURES		
There are no specific project design features related to traffic and circulation identified in this EIR.		
POTENTIAL SIGNIFICANT EFFECTS OF THE PROPOSED PROJECT		
Impacts	**Mitigation Measures**	**Level of Significance After Mitigation**
Implementation of the proposed Master Plan would not result in significant traffic and circulation impacts despite a moderate increase in traffic generated by the project. All roadway segments will continue to operate at satisfactory levels of service and within their designated capacities. Traffic impacts for each operational scenario analyzed are summarized below. • Typical Weekend Plus Master Plan – No project related increase in traffic. • Interim Event Plus Master Plan – Less than significant traffic impacts. • Interim Event with Concert – Less than significant traffic impacts. • Fair Event Plus Master Plan – Less than significant traffic impacts.	No additional mitigation measures are necessary.	The proposed project will not result in any significant adverse impacts to traffic and circulation.
Implementation of the proposed Master Plan will require truck trips for hauling excavated earth material and earth material presently contained in the berm near the amphitheater. Mitigation Measure 12-1 will reduce the short-term construction impacts related to traffic to below a level of significance.	***Mitigation Measure 12-1*** Prior to commencement of construction, the California Construction Authority will coordinate with the City of Costa Mesa regarding haul routes and postproject street maintenance specifically pertaining to removing material from the project during grading and construction periods.	With implementation of Mitigation Measure 12-1, any traffic impacts from trucks hauling earth material from the project site will be less than significant.

2.0 INTRODUCTION

This Environmental Impact Report (EIR) has been prepared to evaluate the specific and cumulative environmental impacts associated with the development of the proposed Orange County Fair and Exposition Center (OCFEC) Master Plan. The 32nd District Agricultural Association (32nd DAA or Association), designated as the Lead Agency, has the authority for preparation and certification of this EIR. The Lead Agency is the public agency that has the principal responsibility for carrying out or approving a project that may have a significant effect on the environment (CEQA Section 21067). The 32nd DAA Board of Directors will use the EIR in its review of the proposed project and in conjunction with its discretionary actions relating to the proposed project. The project approvals associated with the EIR are described in Section 2.3.

2.1 ENVIRONMENTAL REVIEW PROCEDURES

This EIR has been prepared in accordance with the California Environmental Quality Act of 1970 (CEQA), as amended (Public Resources Code Section 21000 et seq.), and the State Guidelines for Implementation of CEQA (Title 14, California Code of Regulations 15000 et seq.). City and County Departments and other affected agencies who requested notification were consulted during the preparation of this EIR. Comments and information received from these contacts have been considered in the EIR preparation process to the extent that comments raised CEQA issues. Agencies and interested persons will have an opportunity to comment during the Draft EIR review period and during the public hearing process. Written comments received by the 32nd DAA on the Draft EIR, together with written responses to those comments, will be included in the Final EIR, in accordance with State CEQA Guidelines.

2.1.1 Notice of Preparation and Public Scoping Meetings

A Notice of Preparation (NOP) for this EIR was distributed for public review by the 32nd DAA on May 27, 2002. Written comments on the scope and content of the Draft EIR were accepted for a period of 30 days, until July 1, 2002 (per CEQA Guidelines Section 15103). A public scoping meeting was held on June 25, 2002, at which time verbal comments were taken. Appendix A includes the NOP, the list of NOP recipients, the letters received during the NOP comment period, and a transcript of the scoping meeting. The Initial Study circulated with the NOP identified the following environmental topics to be evaluated in the Draft EIR:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural and Scientific Resources

- Earth Resources and Topography
- Hydrology and Water Quality
- Land Use
- Noise
- Population and Housing
- Public Services and Utilities
- Recreation
- Traffic and Circulation

The majority of the oral comments received at the scoping meeting expressed opinions about project design or were questions about the administration of the CEQA process, rather than the potential environmental effects of the project as defined by CEQA. For purposes of the EIR analysis, those comments are included in this EIR but are included in the transcript of the scoping meeting and have become part of the 32nd DAA administrative record for this project and hereby incorporated by reference.

In the case of the proposed project, anticipated social effects of the project would not cause any physical environmental changes. The following list briefly summarizes the verbal comments collected by the 32nd DAA during the scoping meeting and the written comments submitted to the Association during the NOP comment period that pertain to potential environmental effects of the proposed project.

- Concerns about water quality and hydrology impacts during construction and after build out should be addressed.
- The EIR must address stormwater drainage and the capacity of the existing drainage system.
- Potential impacts to the Orange County Flood Control District facility at Paularino Channel should be identified and mitigated.
- Concerns for biological resources, such as endangered species and their habitat, should be addressed.
- A survey for burrowing owls should be conducted.
- The EIR must address the potential impacts of reducing the size of the equestrian center on recreational opportunities in the area.
- The EIR should provide an evaluation of the number of existing horses accommodated at the equestrian center, the number of horses that will be forced to other quarters, and viable alternative venues for equestrian users losing facilities for horses.
- The history of the amphitheater and the litigation concerning its use should be included for background.
- Noise from the amphitheater may be a nuisance for residents in the surrounding area.

- The EIR should include an analysis of the potential sound attenuation provided by the berm.
- The EIR must address all types of noise generated by the project and the resulting impacts to adjacent residents.
- There must be mitigation monitoring for noise from the amphitheater.
- Potential traffic hazards and congestion by project generated trips on local streets should be addressed.
- A Traffic Management Plan should be included in the EIR, and both Fair time and non-Fair time uses should be evaluated.
- Potential nuisance created by visitors to the OCFEC who park on local and residential streets should be addressed.
- The acreage total for parking should be provided in the EIR.
- The EIR must address potential impacts to State Transportation Facilities.
- All work within State rights-of-way must conform to Caltrans Standard Plan and Standard Specifications for Water Pollution.
- Potential air quality impacts for all phases of the project and all air pollutant sources must be addressed in the EIR.
- An air quality analysis should include construction grading mitigation measures, including hours of construction/grading and dust mitigation.
- The EIR should contain information on bikeways and how proximity of the OCFEC to bikeways is significant.
- Mitigation that expands and supports bikeway development should be included in the EIR.
- The EIR should contain information on the County's Master Plan of Regional Riding and Hiking Trails.
- The EIR should consider mitigation that develops a riding trail along Mesa Drive to be connected with the Santa Ana Heights Trail.
- Potential impacts to any historical structures, buildings, or heritage trees that may be removed or replaced as a result of the project should be addressed.
- The project developer should follow the City of Costa Mesa's waste reduction and recycling program.
- The EIR should address transportation of refuse from this project site to landfills in Orange County.
- All standard conditions regarding fire protection and safety should be applied to all improvements; use of installed fire protection systems are recommended.
- Impacts to the City's Police Force should be considered with respect to traffic control and protection services.
- Increased demand for fire and medical responses should be addressed in the EIR.

- The Farmer's Market should be included in the analysis.
- A photometric plan that addresses the visual impacts of the project signage should be included in the EIR.
- The possibility of using a portion of the Fairgrounds as a skateboard park should be investigated.

2.1.2 Site Plan Modifications

After comments on the NOP were received by the 32nd DAA, there were some modifications made to the conceptual site plan in order to address issues raised by the public. Therefore, the conceptual plan shown in this EIR (Figure 3.2) is slightly different from the plan described in the NOP materials. The modifications are within the physical envelope of development stated in the NOP, and the overall square footage of the proposed project remains the same. Therefore, there was no need to recirculate the NOP.

2.1.3 Preparation of the Draft EIR

Section 21082.1 of the California Public Resources Code (CEQA Statutes) states the following regarding the preparation of an EIR:

"(a) Any draft environmental impact report, environmental impact report, or negative declaration prepared pursuant to the requirements of this division shall be prepared directly by, or under contract to, a public agency.

(b) This section is not intended to prohibit, and shall not be construed as prohibiting, any person from submitting information or other comments to the public agency responsible for preparing an environmental impact report, draft environmental impact report, or negative declaration. The information or other comments may be submitted in any format, shall be considered by the public agency, and may be included, in whole or in part, in any report or declaration.

(c) The lead agency shall do all of the following:
  (1) Independently review and analyze any report or declaration required by this division.
  (2) Circulate draft documents which reflect its independent judgment.
  (3) As part of the adoption of a negative declaration or certification of an environmental impact report, find that the report or declaration reflects the independent judgment of the lead agency."

Section 15084(d) of the CEQA Guidelines permits a lead agency to choose one of the following arrangements, or a combination of the arrangements, for preparing a Draft EIR:

1. Preparing the Draft EIR directly with its own staff
2. Contracting with another entity, public or private, to prepare the Draft EIR
3. Accepting a draft prepared by the applicant, a consultant retained by the applicant, or any other person

4. Executing a third party contract or memorandum of understanding with the applicant to govern the preparation of a Draft EIR by an independent contractor
5. Using a previously prepared EIR

Section 15084(e) requires that before using a draft prepared by another person, the Lead Agency shall subject the draft to the agency's own review and analysis. The Draft EIR that is sent out for public review must reflect the independent judgment of the lead agency. The Lead Agency is responsible for the adequacy and objectivity of the Draft EIR.

As Lead Agency, the 32nd DAA contracted with a consultant to prepare the Draft EIR; however, the 32nd DAA Board of Directors oversees all stages of the CEQA process and manages the consultant's preparation of the Draft EIR. This document has been independently evaluated, reviewed, and analyzed by the management staff of the Orange County Fair and Exposition Center and the 32nd DAA's Board of Directors and, as such, reflects the independent judgment of the Lead Agency.

Public Review. The Draft EIR is being circulated to the State Clearinghouse, Office of Planning and Research, for a 45 day minimum review and comment period (per CEQA Guidelines Section 15105). The Draft EIR has also been made available to organizations and individuals and has been provided to public libraries in the vicinity of the proposed project. All comments on environmental issues received on the Draft EIR will be responded to and incorporated into the Final EIR. The Response to Comments document will be circulated to commenting agencies at least ten days prior to final hearing before the certifying body (32nd DAA's Board of Directors) and will be made available to the public concurrently.

2.2 PURPOSE AND SCOPE

The purpose of this EIR is to analyze all potential environmental impacts from development of the proposed project. The NOP process assists the Lead Agency in determining the scope of the issues that should be addressed by soliciting public assistance to determine potential environmental impacts, as well as alternatives to the proposed project.

State agencies that are responsible and trustee agencies making discretionary actions on the proposed project were also asked to provide comments in response to the NOP (CEQA Guidelines Section 15082 (d)). Responsible Agencies are public agencies that propose to carry out or approve a project, or a portion of a project, for which a Lead Agency is preparing or has prepared an EIR. Trustee Agencies are State agencies having discretionary approval or jurisdiction by law over natural resources affected by a proposed project that are held in trust for the people of the State of California.

Given the physical features and environmental setting of the project site, the Lead Agency has determined that there are no Trustee Agencies for the proposed project. Nevertheless, input from several State agencies was requested during the NOP process. The State agencies that responded included the Department of Transportation and the Native American Heritage Commission.

Input was also sought from responsible agencies and agencies with jurisdictional interest. The 32nd DAA will work closely with the City of Costa Mesa regarding public right-of-ways, traffic/circulation, and hydrology issues, and the Division of Fairs and Expositions and the California Department of Food and Agriculture will provide general oversight of Master Plan implementation via the California Construction Authority. The project proponent will also comply with State and regional water quality regulations and permitting requirements.

An EIR is the public document used by the governmental agency to analyze the significant environmental effects of a proposed project, to identify alternatives, and to disclose ways to reduce or avoid possible environmental damage. An EIR is prepared when the public agency finds substantial evidence that the project may have a significant effect on the environment (CEQA Guidelines, Section 15002 (f)). The EIR will determine whether the Lead Agency finds that certain project impacts are less than significant or, if they are significant, which mitigation measures would reduce the impacts to a less than significant level. A Statement of Overriding Considerations must be prepared for any impact that cannot be reduced to a less than significant level.

In accordance with CEQA Guidelines Section 15120, EIRs must include the following items:

- Table of Contents or index;
- Summary of the proposed project and its consequences;
- Description of the proposed project or actions;
- Statement of the objectives sought by the project;
- The intended uses of the EIR (agencies expected to use the document for discretionary actions and permits and other approvals necessary for the project);
- A list of related environmental review and consultation requirements required by federal, State, or local laws, regulations, or policies;
- The environmental setting, including description of the physical conditions in the project vicinity at the time the NOP was published
- Potential significant environmental impacts of the project, including significant environmental effects that cannot be avoided if the project is implemented, significant irreversible environmental changes, growth inducing impacts of the proposed project, and cumulative impacts of the project;
- Effects found to be less than significant;
- Mitigation measures proposed to minimize the significant effects;
- Alternatives to the project;
- Cumulative impacts of the proposed project;
- Economic and social effects of the proposed project; and
- Organizations of the persons consulted.

If the project is approved, mitigation measures identified in the EIR will be adopted by the Lead Agency, and the implementation will be monitored through a statutorily mandated monitoring program.

2.3 PROJECT APPROVALS AND INTENDED USES OF THIS EIR

This EIR shall be used by the 32nd DAA to determine any potential environmental effects of the proposed project. The information and conclusions contained herein shall be considered as the 32nd DAA reviews the project. Implementation of the proposed project requires the following discretionary approvals by the 32nd DAA:

- Certification of the Environmental Impact Report (32nd DAA Board of Directors);
- Adoption of a Mitigation Monitoring Plan (32nd DAA Board of Directors);
- Approval and adoption of the Master Plan, including land use guidelines, a conceptual site plan, a business plan, and an implementation strategy (32nd DAA Board of Directors); and

Development of the project will require approvals and permits from the City of Costa Mesa for improvements to the storm drain on Arlington Drive and for an additional point of entry/exit. For this reason the Lead Agency has determined that the City of Costa Mesa is a Responsible Agency under CEQA. Other Responsible Agencies that have permitting authority for some aspect of the project have been identified in Table 2.A.

Table 2.A: Future Actions by the Responsible Agencies

Responsible Agency	Action
City of Costa Mesa	1. Approval from the City will be required for modification and improvements to storm drain facilities on Arlington Drive required for project build out. Any improvements will be a joint project between the City of Costa Mesa and the Orange County Fair and Exposition/32nd DAA. 2. Approval from the City will be required for the WQMP associated with the proposed Master Plan. 3. Other actions needed for implementation of the proposed project include miscellaneous ancillary ministerial permits and approvals such as street work permits and utility connection approvals issued by the City.
State Water Resources Control Board	The 32nd DAA must submit a Notice of Intent to Comply with the State General Construction Activity NPDES Permit and develop and implement a Storm Water Pollution Prevention Plan (SWPPP).

Responsible Agency	Action
Santa Ana Regional Water Quality Control Board (RWQCB)	1. The project must comply with local NPDES permit regulations including the Orange County Drainage Area Management Plan (DAMP). 2. Approval of the SWPPP by the RWQCB will be required prior to issuance of the Notice to Proceed.
California Construction Authority (CCA)	Approval of contracts and issuance of Notices to Proceed by CCA will be required for project implementation.

The project proponent must also comply with the Orange County National Pollution Discharge Elimination System (NPDES) permit administered by the Santa Ana Regional Water Quality Control Board, under regulations promulgated by the US Environmental Protection Agency. These regulations also require that the project comply with the State General Construction Activity Stormwater Permit and that a Storm Water Pollution Prevention Plan (SWPPP) be developed and implemented.

2.4 EFFECTS FOUND NOT TO BE SIGNIFICANT

As required by the CEQA Guidelines Section 15128, this EIR identifies the effects of the project determined to be less than significant. The Initial Study conducted by the 32nd DAA (included in Appendix A) determined that the proposed project would essentially have either no effect or a less than significant effect on certain aspects of the environment. These aspects are summarized below by environmental topic.

Aesthetics

The project site is not a scenic vista, nor would development of the site affect a scenic vista, primarily because the land uses in the area are either developed as residential or urban infrastructure.

There are no designated scenic highways in the vicinity of the project site that would either directly or indirectly be affected by construction and operation of the facilities as outlined in the Master Plan.

Biological Resources

Due to the existing use of the site as Fairgrounds and the fact that the site is surrounded by residential and urban development, there are no biological resources of significance, or endangered, threatened, or rare species or their habitats present on the site.

Population and Housing

The proposed project will not generate additional residents; therefore, the local population would not be directly increased. Adopted local and regional population projections would not be affected by the project.

The project is neither a residential development nor a project that would generate substantial new job opportunities. The proposed project does not require any substantial infrastructure to support its services, because adequate infrastructure is currently available in the existing project area and surrounding areas.

No existing housing would be displaced, because the site is currently developed as Fairgrounds.

Pursuant to CEQA Guidelines, Section 15131, the economic or social effects of a project shall not be treated as significant effects in the environment. An EIR may trace a chain or cause and effect from a proposed decision on a project, through anticipated economic or social changes resulting from the project, to physical changes caused in turn by the economic or social changes. If it was determined that a project's social and/or environmental effects would cause physical changes to the environment, the EIR would provide an analysis on the physical changes.

Earth Resources and Topography

The proposed project would not be affected by seiche or tsunami events due to the distance of the project site from the ocean and its height above sea level. There are no bodies of water within proximity of the site such that the site would be affected by a seiche. The potential for liquefaction at or near the project site is considered minimal due to the absence of shallow groundwater and the moderately high density of soil materials beneath the site.

The potential for seismically induced landslides or mudslides on the project site does not exist because the project site is relatively flat with no hillsides or slopes nearby. Activities that would cause subsidence of the land, such as withdrawal of subsurface fluids such as oil or groundwater, or oxidation of subsurface organized material such as peat or coal, have not occurred on the project site and would not occur under the proposed project.

No unique geological or physical features are located on or adjacent to the project site.

Land Use and Planning

The project site is currently used as a Fairgrounds facility. It is zoned for Institutional and Recreation land uses (I8R). This zoning designation places the OCFEC in the City's largest open space and recreation category. The project site is currently designated as "Fairgrounds" in the City of Costa Mesa's General Plan.

The proposed project would not disrupt or divide the physical arrangement of an established community or convert prime, unique, or important farmland to nonagricultural uses.

Public Utilities and Services

The proposed project will generate an incremental increase in demand for use of electricity. This increase in demand will not be significant. Energy conservation measures will be incorporated into the project design in conjunction with State mandated regulations and guidelines for reduction of energy usage.

Recreation

The proposed project will not generate additional demand for use of local parks or other recreational facilities. Similarly, the project is not anticipated to have a significant effect on existing recreational facilities. The proposed project would not conflict with any specific or proposed recreational plan for the site, and it would not disrupt any existing or planned regional trails or other recreational facilities. The project will reduce the size of the existing equestrian center, but it will not displace any horses or equestrian users.

2.5 FORMAT OF THE EIR

Chapter 1.0—Executive Summary

Chapter 1.0 contains the Executive Summary of the EIR document that lists all project impacts, mitigation measures that have been recommended to reduce any significant impacts of the proposed project, and the level of significance of each impact following mitigation. The summary is presented in a matrix (tabular) format.

Chapter 2.0—Introduction

Chapter 2.0 contains a discussion of the required discretionary actions, purpose, and intended use of the EIR, background on the Initial Study and Notice of Preparation, as well as significant and unavoidable impacts and the document's format. A summary discussion of effects found not to be significant is also included in this chapter.

Chapter 3.0—Project Description

Chapter 3.0 includes discussions of the project's geographical setting; background information on the site's previous use as an industrial use; and the project's goals, objectives, characteristics, components, and phasing.

Chapter 4.0—Existing Setting, Impacts, and Mitigation Measures

Chapter 4.0 includes an analysis of the project's environmental impacts. It is organized into topical sections, including Aesthetics, Air Quality, Biological Resources, Cultural and Scientific Resources, Earth Resources and Topography, Hydrology and Water Quality, Land Use, Noise, Population and Housing, Public Services and Utilities, Recreation, and Traffic and Circulation.

The environmental setting discussions describe the "existing conditions" of the environment on the project site and in the vicinity of the site, as the conditions pertain to the environmental issues being analyzed (Section 15125 of the CEQA Guidelines). The project impact discussions identify and focus on the significant environmental effects of the proposed project. The direct and indirect significant effects of the project on the environment are identified and described, giving due consideration to both the short-term and long-term effects, as necessary (Section 15126.2[a] of the CEQA Guidelines).

The discussions of mitigation measures identify and describe feasible measures that could minimize or lessen significant adverse impacts for each significant environmental effect identified in the EIR (Section 15126[c] of the CEQA Guidelines). The level of significance after mitigation is reported in each section. Unavoidable adverse effects are identified where mitigation is not expected to reduce the effects to insignificant levels.

Chapter 5.0—Cumulative Impacts

Chapter 5.0 includes CEQA mandated discussions of the relationship between local short-term uses of the environment, significant irreversible environmental changes that would result from implementation of the proposed project, and growth inducing impacts of the proposed project.

Chapter 6.0—Long-Term Implications of the Proposed Project

Chapter 6.0 evaluates the long-term commitment of resources to the project and potential growth inducing impacts of the proposed project.

Chapter 7.0—Inventory of Mitigation Measures

Chapter 7.0 provides a listing of all proposed project mitigation measures.

Chapter 8.0—Inventory of Unavoidable Adverse Impacts

Chapter 8.0 describes those significant adverse environmental impacts for which either no mitigation or only partial mitigation is feasible.

Chapter 9.0—Alternatives to the Proposed Project

In accordance with CEQA, Chapter 9.0 describes a reasonable range of alternatives that could feasibly attain the basic objectives of the project and that are capable of eliminating any significant adverse environmental effects or reducing them to a level of insignificance. On-site alternatives analyzed in the Project Alternatives Section include the No Project alternative, three design alternatives, and an alternative project location.

Chapters 10.0, 11.0, and 12.0

Chapters 10.0, 11.0, and 12.0 provide the EIR preparers, the organizations and persons contacted, and the references used in this EIR, respectively.

2.6 LOCATION OF EIR FIGURES AND TABLES

Within each chapter of Volume 1 of this EIR, figures and tables can be found following the page/text in which they are referenced. Not all chapters and sections include figures and tables.

3.0 PROJECT DESCRIPTION

3.1 PROJECT LOCATION AND GEOGRAPHICAL SETTING

The 32nd District Agricultural Association is adopting a Master Plan for the ±150-acre Orange County Fair and Exposition Center (OCFEC or Fairgrounds). The project area is located in central Costa Mesa, on the north side of Fair Drive, between Newport Boulevard (southbound) to the east and Fairview Road to the west. Arlington Drive is located along the site's north boundary. Regional access is provided to the site by State Route 55 (SR-55) to the north and east. Figure 3.1.1 provides regional and local maps of the project site.

The project site was formerly a portion of the Santa Ana Army Air Base. The Fairgrounds began to occupy the site in the early 1950s, prior to development of the surrounding area.

The Costa Mesa General Plan designation for the project site is "Fairgrounds."

Existing On-Site Uses

The OCFEC has existed at this location for over 50 years and has become a year-round exhibition, conference, and event center. The primary function of OCFEC is to host the annual summer Fair. Approximately 900,000 people attended the 2002 summer Fair. There are, however, events and exhibitions occurring on the Fairgrounds each weekend, including the Orange County Marketplace, a swap meet that occupies a portion of the OCFEC's parking lot.

Currently, the Fairgrounds complex includes the following major facilities, parking areas, and subareas.

- Amphitheater—An open-air arena providing fixed seating for 8,500 persons. The berm area provides for approximately 10,000 additional spectators. The facility was used primarily for musical concerts during the annual Fair event, however, the venue has not been used for over five years.
- Arlington Theater—A lawn area with a capacity for 8,500 spectators with temporary bleachers. The theater is primarily used for concert events.
- Grandstand Arena—A 7,500-seat arena used primarily for rodeos, circuses, motorcycle races, and additional outdoor events.
- Exhibit Buildings—Six buildings totaling 106,000 square feet, which are rented for various shows.
- Equestrian Center—Approximately 11.5 acres utilized for the boarding and training of horses, as well as horse shows.

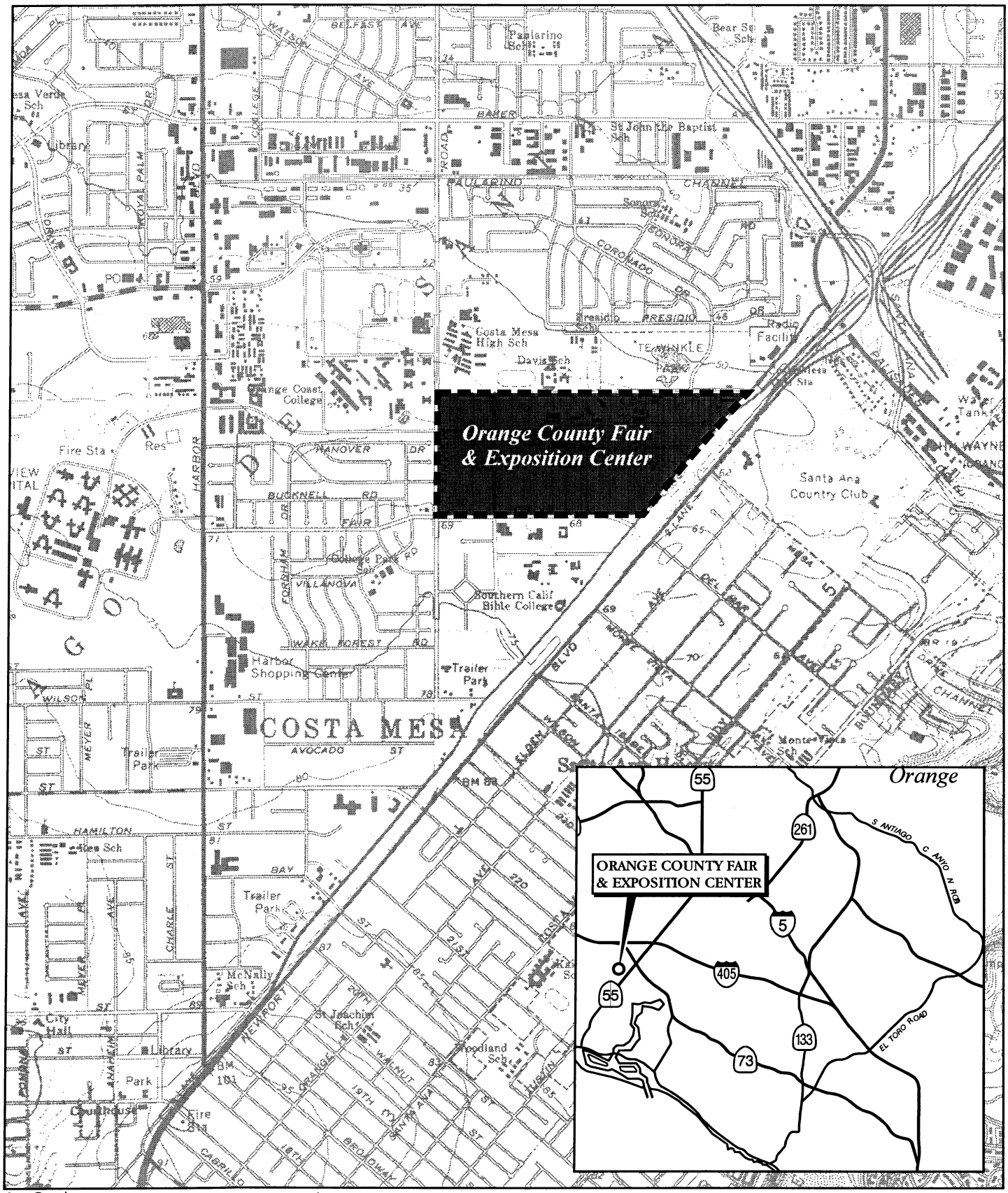

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FIGURE 3.1.1

Orange County Fair and Exposition Center

Location Map

0 1000 2000

Source: USGS 7.5' Topographic Quadrangle, "Newport Beach, Calif."

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- Centennial Farms—An approximately 3.5-acre outdoor agricultural and livestock area showcasing educational programs for school-aged children.
- Outdoor Areas—Three outdoor areas totaling 13.5 acres, used primarily for shows and expositions. One area, comprising 7.5 acres, is also used as exhibitor parking when needed and if available.
- Mall Areas—Three acres adjacent to the outdoor areas, used primarily as show areas for cars, etc.
- Parking Lots—The main parking areas (Parking Lots A through D) are located along the southern and western sides of the site. Parking capacity is distributed throughout the site, with roughly 7,500 marked parking spaces.

Figure 3.1.2 is an aerial photograph depicting the existing Fairgrounds complex and the various use areas, and Table 3.1.A indicates the existing buildings, areas, and associated square footage of the OCFEC.

Adjacent Land Uses

As previously mentioned, the OCFEC was developed on the project site prior to any of the surrounding land uses. Over the past 50 years, the area around the Fairgrounds has gradually been occupied by a variety of uses including educational facilities, parks, and low-density to high-density residential areas.

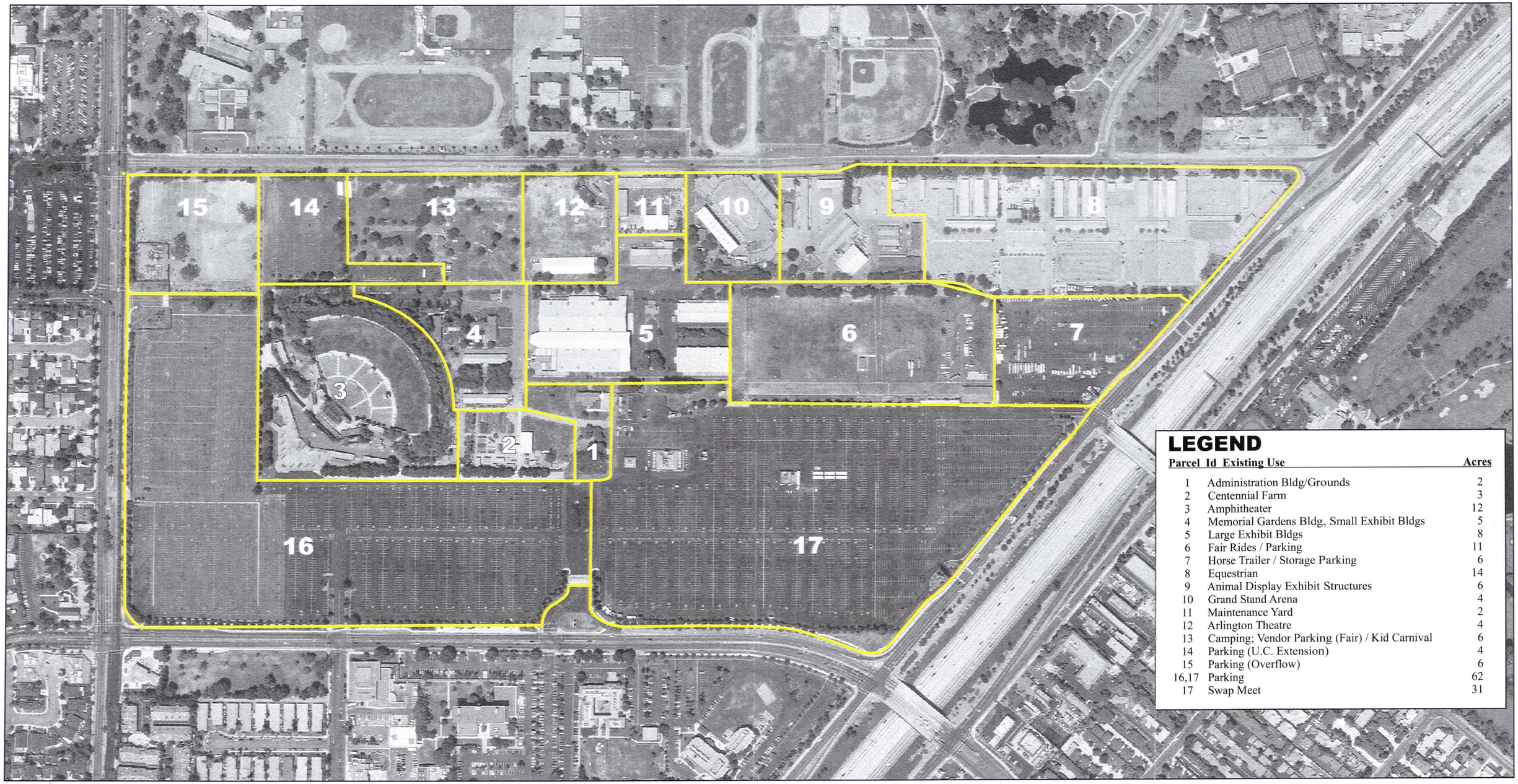
Orange Coast Community College is located to the northwest, Costa Mesa High School and Davis Elementary School are located to the north, and Vanguard University is located to the south. Single family residential areas are located north of TeWinkle Park. West of Fairview Road and south of SR-55 are single/multiple family residences. Civic Center Park, TeWinkle Park, and the privately owned Santa Ana Country Club and golf course are recreational/open space facilities in the immediate surrounding area. The Costa Mesa Civic Center is located to the south. The National Guard Armory is located near the northeast corner of the property. General commercial areas are located primarily along Harbor Boulevard to the west and southeast of SR-55.

Figure 3.1.3 is an aerial photograph showing surrounding land uses in the immediate vicinity of the project area.

3.2 PROJECT CHARACTERISTICS

Proposed Land Use Plan—Overview

The proposed OCFEC Master Plan project will involve removing and replacing existing structures, constructing new additional structures, constructing additional parking areas, and establishing a coherent and thematic landscape, sign, and lighting plan. In general, the project will result in a core facilities area surrounded by a parking area. Access from the parking area into the core area will be controlled by three major pedestrian gates and two minor access points. The architectural design and planning of the proposed project reflect that of a village center. The core of facilities will be divided



LEGEND

Parcel Id	Existing Use	Acres
1	Administration Bldg/Grounds	2
2	Centennial Farm	3
3	Amphitheater	12
4	Memorial Gardens Bldg, Small Exhibit Bldgs	5
5	Large Exhibit Bldgs	8
6	Fair Rides / Parking	11
7	Horse Trailer / Storage Parking	6
8	Equestrian	14
9	Animal Display Exhibit Structures	6
10	Grand Stand Arena	4
11	Maintenance Yard	2
12	Arlington Theatre	4
13	Camping; Vendor Parking (Fair) / Kid Carnival	6
14	Parking (U.C. Extension)	4
15	Parking (Overflow)	6
16,17	Parking	62
17	Swap Meet	31

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N

Scale in Feet

0 300 600

SOURCE: HJW June,1999-

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FIGURE 3.1.2

Orange County Fair and Exposition Center

Fairgrounds Complex Use Areas

Table 3.1.A: Existing Facilities

	Existing
Amphitheater	351,560 (18,500 seats)
Centennial Farms	168,000
Festival Grounds/Camping[1]	306,250
Carnival Lot[2]	318,150
Exhibit & Administration Buildings	167,986
Silo	2,730
Barn	5,190
Plazas/Courts	71,875
Central Park	0
Storage	11,130
Yard	28,050
Livestock Area	97,200
Arena	110,136
Equestrian Center	500,940
Little Theater	5,960
Judging Ring	0
Memorial Gardens	3,411
Arlington Theater	97,344
TOTAL	1,927,762

All numbers are in square feet unless otherwise noted.

[1] Festival Grounds (excludes area for parking)

[2] Carnival Lot (includes area for non-Fair parking)

LSA

N

Scale in Feet

0 300 600

SOURCE: Fuscoe Engineering

I:\Ccz030\G\Surrounding Land Uses 2.cdr (9/27/02)

FIGURE 3.1.3

Orange County Fair and Exposition Center

Surrounding Land Uses

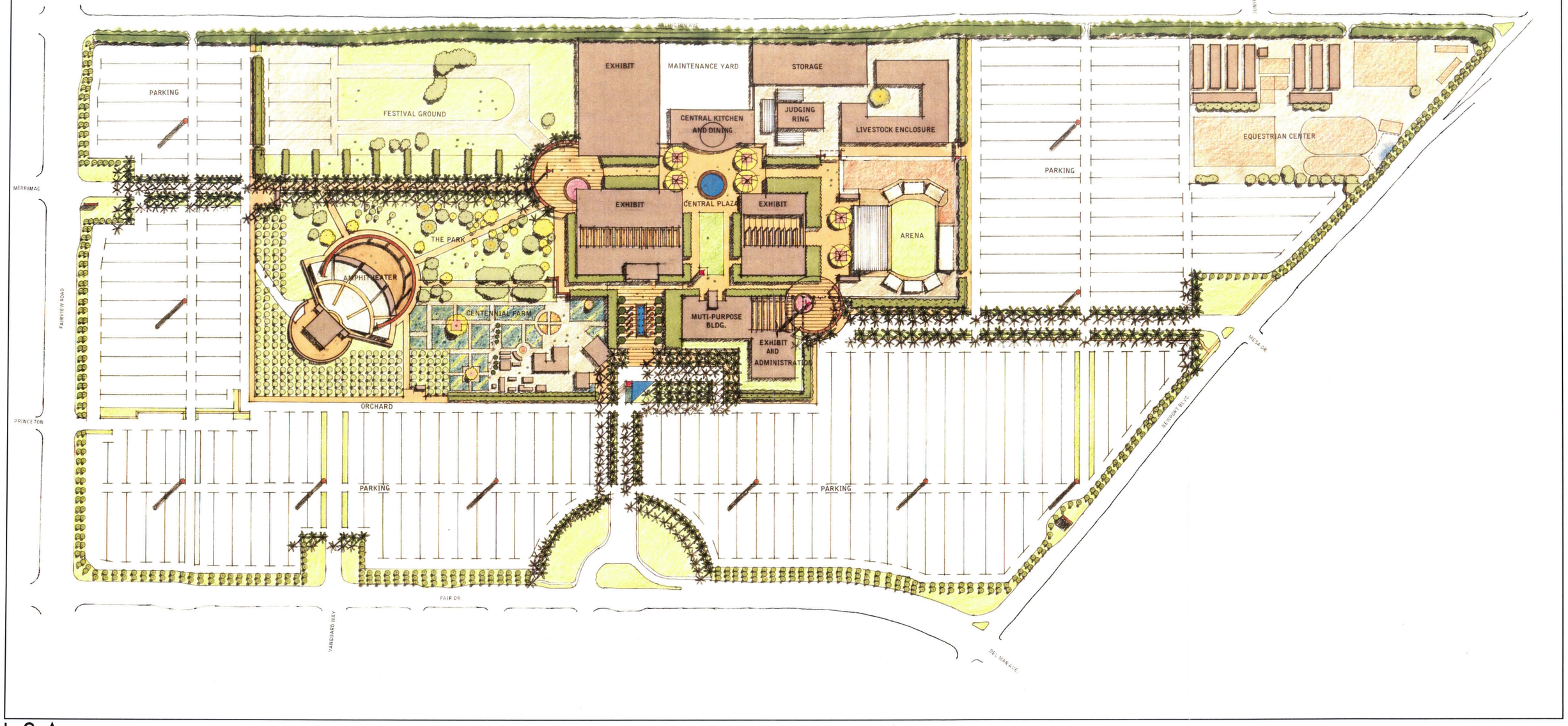
into two general areas: a Park (open space) area and a Village (buildings) area. A series of pedestrian walkways will connect the two areas and allow for internal movement between areas of the Fairgrounds complex.

Figure 3.2.1 is a conceptual drawing of the project area illustrating the proposed Master Plan. Table 3.2.A shows the net change in square footage from the existing setting to the proposed project.

The Park Area. The Park, the western portion of the core of facilities, will include a remodeled amphitheater that will have reduced capacity (from 18,500 to 8,500 people). The first phase in remodeling the amphitheater will be to remove a large earthen berm that is used for seating up to 10,000 people. This berm contains approximately 200,000 cubic yards of earthen material. The amphitheater will be reopened with a maximum capacity of 8,500. East and north of the amphitheater will be a large, passive park area. The Park will be characterized by an open landscape area with drifts of shade trees. The adjacent areas to the south and west of the refurbished amphitheater currently occupied by box office structures and hard surface plaza will be replaced by a grove of citrus trees. The midway (carnival lot) will be relocated north of this park area to an area referred to as the Festival Grounds. Centennial Farms, a working farm exhibit, will be expanded to the west, incorporating an area that is currently occupied by a portion of the earthen berm.

The Village. The Village portion of the Fairgrounds will contain a series of buildings and open space plazas. The existing four exhibit buildings will remain. A covered structure linking the eastern exhibit buildings will be created. The existing exhibit building located south of the maintenance yard will be replaced by a building containing a large industrial kitchen and restaurant. A new exhibit building (approximately 85,000 square feet) will be located north of the exhibit buildings and west of the maintenance yard. A new storage structure (35,000 sq. ft.) will be located east of the maintenance yard. A covered judging ring will be located east of the new kitchen/restaurant and south of the new storage structure. The livestock area will remain in the same location, with the stalls and pens replaced by similar, upgraded structures. The arena, which will remain approximately the same size, will be relocated south of the livestock area. Two multipurpose buildings (approximately 20,000 square feet each) will be constructed south of the existing exhibit buildings and east of the primary entry/arrival court complex. These buildings may be connected at one corner.

Access. The primary entry (off of Fair Drive) will be improved and landscaped. Improvements will allow for easy access to the Fairgrounds by bicyclists and pedestrians. The primary entry will extend from Fair Drive into the parking area via a grand promenade and culminate at the arrival court located at the south-central portion of the Fairgrounds proper. The Newport Boulevard and Fairview Road entries will also be landscaped and connected to the Fairgrounds proper by drive aisles flanked by rows of tall palm trees. The proposed landscape concept will announce the location of the Fairgrounds, complement the adjacent pedestrian and vehicular routes, and define the major points of entry.



LSA

FIGURE 3.2.1

N

0 100 200

FEET

SOURCE: Fuscoe Engineering

I:\Ccz030\G\Conceptual Site Plan.cdr (12/16/02)

Orange County Fair and Exposition Center

Conceptual Site Plan

Table 3.2.A: Net Change in Square Footage

	Existing	Master Plan	Net Change
Amphitheater	351,560 (18,500 seats)	254,400 (8,500 seats)	-97,160 (10,000 seats)
Centennial Farms	168,000	196,000	28,000
Festival Grounds/Camping[1]	306,250	245,000	-61,250
Carnival Lot[2]	318,150	322,000	3,850
Exhibit & Administration Buildings	167,986	344,380	176,394
Silo	2,730	2,730	0
Barn	5,190	5,190	0
Plazas/Courts	71,875	170,400	98,525
Central Park	0	302,900	302,900
Storage	11,130	45,900	34,770
Yard	28,050	60,000	31,950
Livestock Area	97,200	97,200	0
Arena	110,136	116,100	5,964
Equestrian Center	500,940	330,000	-170,940
Little Theater	5,960	0	-5960
Judging Ring	0	43,200	43,200
Memorial Gardens	3,411	3,411	0
Arlington Theater	97,344	0	-97,344
TOTAL	1,927,762	2,216,811	289,049

All numbers are in square feet unless otherwise noted.

[1] Festival Grounds (excludes area for parking)

[2] Carnival Lot (includes area for non-Fair parking)

An additional access point onto/off of Arlington Drive will be built between the Equestrian Center and the existing Arlington Drive service entrance to serve the expanded parking area in the northeast portion of the Fairgrounds. Permit approval from the City of Costa Mesa will be required to construct the additional access point.

After Master Plan implementation, there will be nine Fairgrounds access points.

Equestrian Center. The existing equestrian center will be reduced in area by about 50 percent (approximately seven acres). The reduced equestrian center will be located in the northeast corner of the site.

The western portion of the equestrian center will be replaced by additional parking and an access point onto/off of Arlington Drive, as described above.

On-Site and Off-Site Infrastructure Improvements

The project infrastructure components to be implemented will require improvements to, and connection with, off-site and on-site infrastructure systems. Existing systems, which include water, electricity, natural gas, telephone, sewerage, and storm drains, are already built and currently being used by the OCFEC. The construction of new buildings will require extensions of existing service lines and the removal of any abandoned lines. A Water Quality Management Plan and related storm drain and water quality system improvements are included in the project. Other improvements include landscaping, lighting, signage, and earthwork.

Storm Drain and Water Quality System. The proposed project includes a comprehensive storm drain and water quality system designed to collect and convey runoff from the project site into existing and planned City storm drains and reduce or prevent the discharge of pollutants from on-site activities. All storm drain and water quality improvements will be implemented in concert with the phasing program established by the Master Plan as administered by the 32nd DAA Board of Directors.

The following storm drain improvements will be implemented to alleviate the flood hazard on Arlington Drive and the inadequate storm drain systems onsite:

1. Extend the 54" reinforced concrete pipe (RCP) in Arlington Drive approximately 2,000 feet, with six storm drain laterals connected to the on-site system.

2. Replace the existing 18-inch RCP in Area C with a 36-inch RCP and a 14-foot catch basin.

3. Realign and replace the storm drain system in Area D with a 48" RCP and four 10-foot catch basin.

The following water quality features have been incorporated into the project design. Most runoff will be treated by two or more of these features.

- **Bio-swale**: A bio-swale is an infiltration swale with a vegetated bottom and side banks, which retards surface runoff and gradually infiltrates it through the channel bottom. Due to the slow velocity and flat slopes, fine particles settle to the bottom of the channel, the runoff infiltrates into the soil to recharge the groundwater basin, and the vegetation will uptake nutrients (e.g., nitrogen and phosphorus), microbial contaminants, pesticides, and organic matter.

  In order to increase the effectiveness of the bio-swale design and improve percolation, a gravel base with sand and topsoil cover provides for optimal infiltration and stormwater treatment. Catch basin inserts will be utilized where feasible in order to treat runoff before it enters the bio-swales along the perimeter of the project site.

- **Water Quality Basin:** A water quality basin is a biological filter with a wetland bottom and vegetation on the side banks, which impounds surface runoff and gradually filters it through the basin floor. It is similar to conventional dry ponds. The key component of the water quality basin is the plant palate that is specifically designed to uptake pollutants of concern. The detained runoff is filtered through permeable soils beneath the basin, removing both fine and soluble pollutants. Removal mechanisms include adsorption, filtering, and microbial decomposition in the basin subsoil. Due to the slow velocity, fine particles will settle to the bottom of the channel, runoff will infiltrate the soil to recharge the groundwater basin, and vegetation will uptake fertilizers and nutrients (e.g., nitrogen and phosphorus), microbial contaminants, pesticides, and organic matter.

- **Biofiltration Area:** A biofiltration area is an infiltration zone that promotes percolation of storm water through sandy substrate prior to discharging it into the storm drain system. Residence time and wetland plant densities within a biofiltration area are less than a water quality basin. The main purpose of this BMP is to infiltrate stormwater to remove sediment, particulates, and hydrocarbons from runoff.

- **On-Lot Infiltration:** On-lot infiltration promotes infiltration at the individual building or lot level and is usually a small-scale system. These systems often incorporate the use of planter or landscaped areas to collect and infiltrate rooftop drainage and building runoff. Runoff from buildings and rooftops typically consists of sediment and particulates from atmospheric deposition. Discharging the runoff through a landscaped area removes the pollutants as water percolates through the soil.

- **Catch-Basin Filters and Storm Drain Filters:** Catch basin filters and storm drain filters typically target the same category of pollutants including sediment, trash, debris, particulates, and hydrocarbons. These types of pollutants are commonly associated with parking lots. The catch basin filter is designed to fit into grate inlets or catch basins and collect trash, debris, and sediments, and remove hydrocarbons from an absorbent that skims the

hydrocarbons from the top of the water moving through the device. All filters have a high flow bypass capability to alleviate flooding when the device becomes clogged or full.

A storm drain insert typically works in the same fashion, except that the device is installed directly into the storm drain line underground. The devices are sized to treat a certain quantity of low-flow to remove trash, debris, sediments, particulates and hydrocarbons from storm water. These devices also are equipped with a high-flow bypass mechanism so that flooding does not occur.

Storm drain and water quality system improvements are described and analyzed in detail in Section 4.6, Hydrology and Water Quality

Landscaping. The landscape component of the proposed Master Plan serves an aesthetic, thematic, and identification role. The western, southern, and eastern perimeters of the parking lot are characterized by a park-like edge with tall deciduous trees with an open structure, and lace branching that allow for views into the OCFEC. These exterior edges will also have low hedges, high enough to visually obscure the front parking rows but low enough to allow views of the OCFEC. The northern edge along Arlington Drive will feature improved landscaping consisting of tall vertical evergreen trees (e.g., Eucalyptus) to supplement existing trees.

As previously mentioned, the Park Area will feature a citrus grove and a large passive park area with drifts of shade trees. The Village area will feature a pedestrian promenade and expanded plazas with formal rows of trees. Existing trees will be preserved when building construction and the health of the trees allow.

Lighting. The parking area will be illuminated using high mast poles. The proposed Master Plan replaces the existing light poles in the eastern portion of the parking lot and replaces them with the same light standards currently in use in the western and central areas of the parking lot. These light poles are approximately 80 feet high and will be visually enhanced with colored metal sheathing/casing. Full cutoff lighting fixtures will be used so that light is directed to the ground, glare is minimized, and unwanted light spillover is avoided.

Pedestrian areas within the Village and Park Areas will be illuminated with fixtures on 12-foot-high light poles. The poles will be enhanced in a manner similar to the light poles discussed above, including cutoff light fixtures to provide even light coverage, minimize light glare, and avoid unintended light spillover.

Signage. The proposed project includes the relocation of the electronic sign/reader board currently on Fair Drive to the area near the existing billboards north of the Fair Drive/Newport Boulevard intersection. A second monument style sign with electronic copy will be located on the Fairview Road frontage at the Fairview/Merrimac entrance. This sign will be no higher than eight feet from ground elevation and will be used for local information and direction purposes.

Site Preparation and Earthwork

The proposed project will require the removal of the large earthen berm near the amphitheater that contains approximately 200,000 cubic yards of earthen material. The project will also require the removal of several small exhibit buildings and related foundations, pipes, and construction material.

This EIR addresses the potential environmental impacts of earthwork and site preparation, the ratio of cut to fill material, and, if material is required to be exported off site, the potential alternative locations for deposition of the exported material. Section 4.5, Earth Resources and Topography, addresses the proposed landform modifications and geologic characteristics of the site, based on an engineering evaluation prepared by a geotechnical engineering consultant.

3.3 PROJECT OBJECTIVES

CEQA provides that project objectives be established but does not specify the source for the objectives. To prepare objectives for this project, a combination of interests have been considered, including the 32nd District Agricultural Association's mission statement, public policy, and feasibility.

The project objectives for the OCFEC are as follows:

1. Develop the Fairgrounds in a manner that continues to provide appropriate facilities for all the activities that occur at the OCFEC, including the annual summer Fair.

2. Develop and implement a Master Plan for the Fairgrounds that will provide opportunities to cautiously expand and add facilities to accommodate the growing events and exhibition market in Orange County.

3. Develop and implement a Master Plan for the Fairgrounds that will encourage and accommodate simultaneous activities.

4. Develop and implement a Master Plan that will allow the Fairgrounds to serve the diverse ethnic and cultural populations of Orange County.

5. Develop and implement a Master Plan that will allow the Fairgrounds to provide a continued opportunity for weekend retail uses.

6. Develop and implement a Master Plan for the Fairgrounds that will preserve and provide for the expansion of Centennial Farm as the signature element of the OCFEC.

7. Develop and implement a Master Plan for the Fairgrounds that will establish a visual and aesthetic identity for the OCFEC using common thematic design elements that highlight the cultural, historical, and recreational aspects of California and Orange County.

8. Develop and implement a Master Plan for the Fairgrounds that will restore concerts, plays, and other community events, with the maximum paying guest capacity of 8,500 persons, to

the venue known as the Pacific Amphitheater in a manner that will minimize adverse impacts to surrounding neighborhoods.

9. Develop and implement a Master Plan that will allow the OCFEC to maintain a financially independent status while meeting community needs.

3.4 PROJECT DESIGN FEATURES

Project Design Features (PDFs) are specific design components of the proposed project that have been incorporated to reduce its potential environmental effects. Examples of PDFs include landscape and hardscape that soften the visual effects of the development or perimeter walls in aesthetically pleasing materials and colors that also serve to attenuate noise levels generated by site activities. These features provide mitigation through avoidance or reduction of impacts. Because these features are part of the project design, they do not constitute additional mitigation measurers but are in effect mitigation through project design. In order to ensure accountability for implementation, the PDFs specify timing mechanisms, responsible parties, and other components, as appropriate. PDFs are described in the sections of Chapter 4.0, where relevant, for reduction of environmental effects of the proposed project. PDFs are not included under each environmental topic. The Mitigation Monitoring and Reporting Program will include specific implementation components, similar to mitigation measures, for each PDF.

3.5 MITIGATION MEASURES

Where necessary and feasible, project specific mitigation measures are required to reduce significant project impacts that result from project implementation, even after application of the project design features and standard conditions. Project mitigation measures address specific circumstances and site characteristics in order to further reduce environmental effects. Each impact discussion within the section of Chapter 4.0 provides a conclusion as to whether the project impacts are or are not reduced to below a level of significance with implementation of a combination of PDFs, standard conditions, and mitigation measures. The level of significance threshold is established within each impact section by listings of significance criteria. For some impacts, there are no feasible mitigation measures that can be applied to further reduce the stated environmental effects. For such impacts, a finding that the project will result in significant unavoidable impacts is included in this EIR.

3.6 PHASING

The OCFEC Master Plan represents an 8- to 10-year effort. Phasing is divided in a manner that allows the OCFEC to continue to function and accommodate year-round uses. The following phases are suggested as manageable implementation units and do not necessarily represent a strict sequence. If feasible, several units (phases) may overlap or occur simultaneously. Drainage, water, electricity, gas, and sewer system improvements will be integrated into each phase of Master Plan implementation. Figure 3.7.1 illustrates the proposed project phases.

Figure 3.7.1: Proposed Project Phases

Phase 1 EQC (Western Portion)—This phase will include removal of roughly 50 percent of the existing EQC including stalls, trainer areas, and show rings. It will also include grading and construction of a new parking area and the establishment of a new gate off of Arlington Drive.

Phase 2 Park/Amphitheater—This phase will include removal of the earthen berm surrounding the amphitheater and the refurbishment of the amphitheater seating areas and sound system. This phase will also include the demolition of buildings 13 and 15 and the Little Theater. The sidewalk at the west and south edges of the amphitheater and Centennial Farms will be installed as will the orange grove.

Phase 3 Entries—This phase will include improvements to the primary Fair gate located on Fair Drive as well as to the Newport Boulevard/Mesa entry, the Vanguard/Fair entry, and the Merrimac/Fairview entry. It will also include the relocation of the electronic signboard from the south side of the Fairgrounds to the east side of the Fairgrounds. A monument reader board will be constructed on the west side of the Fairgrounds near the entrance on Fairview.

Phase 4 Northwest Village—This phase will include the demolition of building 17 and the construction of a new kitchen and an 85,000-square-foot exhibit hall. It will also include landscaping, paving, and lighting improvements

Phase 5 Central Village—This phase will include the construction of a covering that will link buildings 14 and 16 and architectural improvements to existing exhibit buildings. It will also include landscaping, paving, and lighting improvements.

Phase 6 South Village—This phase will include the demolition of the existing administration building and construction of a 40,000-square-foot multipurpose building and a new arrival court.

Phase 7 Festival Grounds—This phase will include the demolition of the restrooms and gazebos and the installation of a subsurface power grid. It will also include landscaping, paving, and lighting improvements.

Phase 8 Southeast Village—This phase will include the construction of a new area, the installation of sidewalks around the east and south edges of the Village, and construction of a new ticket booth and secondary gate.

Phase 9 Northwest Village—This phase will include the demolition of the existing area and the construction of a 35,000-square-foot storage building, a 43,000-square-foot judging ring, and 97,000-square-foot livestock building.

4.1 AESTHETICS

The purpose of this section is to establish the predominant visual characteristics of the project area, to describe existing views of the project site and the area beyond the site, and to evaluate the impact of the proposed Master Plan project on the existing visual environment. In order to assist with this analysis, several view simulations have been prepared.

The photographic simulations depict the before and after project conditions. A total of four view locations have been used to visually describe the project from different perspectives and angles.

The photographic simulations were developed from a combination of color photographs, computer generated images, and artist renderings. A photograph was taken from each view location and computer scanned. Digitally based electronic data from the project plan (e.g., site plan and preliminary architecture) were input into the computer, and images were developed to depict the dimension shape, size, and character of the proposed improvements.

From the color photographs and digital images, artists prepared illustrative renderings of the proposed images to present a more realistic perspective. Landscape materials consistent with the proposed project concept were also arranged in the image. With all components in place, the photographic simulation provides an accurate indication of the difference in views with and without the project.

4.1.1 EXISTING SETTING

Visual Character of the Site

As described in Section 3.0 Project Description, the project site is occupied by the OCFEC and is used for a variety of community and fair activities. The project site is generally flat, with the most prominent features being the Amphitheater, its berm, and the grandstand arena. Five to six foot hedges surround the Fairgrounds, thereby obscuring views onto the property from adjacent vehicular and pedestrian traffic.

Buildings within the facility are eclectic in appearance, varying in age, design, and size. Buildings within the existing grid-like layout of the site include eight exhibit buildings, the Memorial Gardens Building, an administrative office building, a tavern, grandstand and theater structures, a gazebo, Centennial Farms, several freestanding restroom facilities, and livestock pens and stables. Although buildings number 10, 12, 14, and 16 form a central core, the remaining buildings are scattered indiscriminately throughout the Fairgrounds. Furthermore, there is a lack of consistent landscape treatment resulting in a disjointed and unorganized appearance.

The permanent exhibit buildings range in height from one to almost two stories. Some of the smaller buildings are the top portion (second story) of 1940s military barracks (remnants of the Santa Ana

Army Air Base training facility) and encompass several hundred square feet of floor space. It should be noted that none of the air base structures remain in their original location or condition.

The new, larger exhibit buildings located in the center of the site are tilt-up, box-like structures, circa 1970s or later, and boast several thousand square feet of floor space. The tallest building on the Fairgrounds is the Millennium Barn (within the Centennial Farm area), which is two and a half to three stories high (approximately 40 feet). Access to the building is from wide asphalt paved walkways laid throughout the main portion of the site. Walkways within the grounds are periodically lined with trees. Adjacent to the paved walkways are grassy areas, some planted with trees. The site's landscaping is varied, with no continuous theme or image observable throughout the property.

The primary entry to the OCFEC at Fair Drive provides a direct view of the two story administration building. The most prominent feature of the Fairgrounds visible from this entrance is the Millennium Barn. Located to the west of the administration building, the Barn is reminiscent of the County's agricultural heritage and therefore consistent with both the 32nd District Agricultural Association's (32nd DAA) Mission and the proposed project's (Master Plan) Vision Statement. The restroom and snack bar located in the parking lot to the east of the administration building are also visible from this entrance. These structures are primarily used by the weekend swap meet operator. Constructed of masonry blocks and surrounded by parking and drive aisles, these structures are separated both physically and architecturally from the Fairgrounds proper.

Portions of the project site can be seen from SR-55, Newport Boulevard, Fair Drive, Fairview Road, and Arlington Drive. Situated in a suburban setting, surrounding properties include low-density residential, high-density multifamily residential, commercial, civic/institutional, and recreation/open space. There are no City General Plan designated scenic routes or scenic views adjacent to the site.

Specifically, residential neighborhoods may be considered sensitive receptors in terms of potential visual impacts. As previously mentioned, single family residential neighborhoods are located to the west of the project site across Fairview Road and to the north of the project site across Arlington Drive and beyond (northeast of) TeWinkle Park.

Selected View Locations

Three ground level view locations were selected to represent the publicly accessible views of the project site. Because views are largely restricted by the hedges that surround the property, a fourth view location was chosen from the OCFEC parking area to illustrate the changes in the amphitheater area. These locations were chosen because they provide the best illustrations of potential changes in view. Each location was then reexamined and refined as needed. These view selections are graphically presented in the impacts section of this chapter and illustrate the current condition and the condition after project completion. A brief description of each view is included below:

View A—Fair Drive: Illustrates how the site will look with the addition of new landscaping, buildings, an orange grove, and the removal of the masonry snack bar and restroom.

View B—East Arlington Drive: Illustrates how the site will look from Arlington Drive after a section of the Equestrian Center is removed and new exhibit, storage, and livestock buildings are constructed.

View C—Amphitheater: Illustrates how the area around the Amphitheater will look after the ticket book and entrance areas are replaced by an orange grove.

Light and Glare

The OCFEC, which has been at its present location for approximately 50 years, is well illuminated. The grounds are lit only during evening and nighttime activities. Security lighting is used to illuminate the grounds during nonevent times. The parking lot currently has 12 light standards used to illuminate the area. Five of the standards are 80 feet in height and have six lamps, with a total of 1,000 watts. The remaining seven light standards are 30 feet in height and have eight lamps, with a total of 1,000 watts.

4.1.2 THRESHOLDS OF SIGNIFICANCE

Whether or not an aesthetic impact is significant is a subjective determination, and there is no universally adopted standard or set of criteria for this issue. The impact significance criteria used for this analysis are based on the Initial Study Checklist prepared by the Lead Agency for this project. The Initial Study Checklist addressed each question required by the CEQA Guidelines, including those related to aesthetics. The proposed project will have a potentially significant impact if it:

1-A Affects a scenic vista or view open to the public

1-B Affects a City of Costa Mesa designated scenic highway

1-C Substantially degrades the existing visual character or quality of the site and its surroundings

1-D Creates new sources of light or glare beyond the physical limits of the project site

Because there are no scenic vistas or designated scenic highways adjacent to the proposed site, the significance analysis will focus on Criteria 1-C and 1-D.

4.1.3 PROJECT DESIGN FEATURES

The proposed project is designed to establish a visual and aesthetic identity for the OCFEC by using common thematic design elements that highlight the unique cultural, historical, and recreational aspects of California and Orange County. As part of this objective, the Master Plan aims to enhance the site's compatibility with adjacent uses and improve the streetscapes.

Project design features (PDFs) are specific design components of the proposed project that have been incorporated to reduce its potential environmental effects. Examples of PDFs include the location of

buildings, the use of specific building materials, and the provision of perimeter walls or other features that reduce the potential project impacts on adjacent land uses through design.

The following Project Design Features are those proposed design characteristics and site plan components that reduce 1) project impacts on the visual character and quality of the site and its surroundings, 2) light and glare impacts, and 3) visual intrusion impacts.

PDF 1-1 **Conceptual Landscape Plan.** The proposed Master Plan includes a Conceptual Landscape Plan and landscape guidelines that provide for groundcover shrubs and trees throughout the site. The landscaping provides visual relief and interest to views of the site, as well as visual relief to the perimeter wall along the property lines. This PDF will be confirmed by the California Construction Authority prior to issuance of the Notice to Proceed.

PDF 1-2 **Lighting Plan.** The proposed Master Plan includes a Lighting Plan. The Lighting Plan demonstrates that all outdoor lighting (street lights, parking lot security lights, parking structure lights, and building lights) will be designed so that all direct lighting is confined to the project site and that adjacent residential properties are protected from spillover light and glare. This PDF will be confirmed by the California Construction Authority prior to issuance of the Notice to Proceed.

PDF 1-3 **Streetscape Views.** The overall project design will create attractive streetscape views by using high-quality materials, neutral-toned buildings, and extensive on-site and street frontage landscape elements. This PDF will be confirmed by the California Construction Authority prior to issuance of the Notice to Proceed.

4.1.4 IMPACTS AND MITIGATION MEASURES

Views and Visual Aesthetics

A key objective of the proposed Master Plan is to develop a cohesive, consistent design theme via building location, elevations, outdoor spaces (both landscaped and hardscaped), signage, and lighting. In keeping with the proposed Master Plan's Vision Statement, the overall design will be orderly and safe and will facilitate both vehicular and pedestrian movements while maintaining a festive theme.

As previously mentioned, the project site is relatively flat and is located within a suburban setting of low rise structures, open space, and institutional and single family residential uses. As such, the site is not visible from many of the surrounding areas, and implementation of the proposed Master Plan would not result in many visual changes.

For the purposes of this discussion, however, four key vantage points were selected to portray potential visual changes that would result from implementation of the proposed project.

This subsection addresses public views of the project site and how they would be affected. A view location key map (Figure 4.1.1) shows the location of the representative views analyzed herein.

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FIGURE 4.1.1

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Orange County Fair and Exposition Center
Location View Map

SOURCE: EAGLE AERIAL.

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Views of the project site and the coverage areas of the four vantage points are provided in Figures 4.1.2 through 4.1.4. Views before development are provided on the same sheet as simulations of the after development conditions. The following analysis addresses whether or not there is a significant impact on the environment, based on the thresholds of significance criteria. Each view is addressed to determine effects from a particular viewpoint.

View A—Entry to the Fairgrounds from Fair Drive. View A (Figure 4.1.2) provides the existing and after development views from Fair Drive. This view assumes a vantage point at the primary OCFEC entry on Fair Drive, the means by which most people access the site. Looking north from this point, the view consists of two medians with large coral trees *(Erythrina caffra)* surrounded by parking areas. In the background are various OCFEC buildings, including the Centennial Farm barn, the swap meet snack bar and restrooms, and the trees surrounding the amphitheater.

The view simulation of conditions after development illustrates the formal entry with new medians on either side of the drive containing tall palm trees *(Phoenix dactilefera)* and an arrival court with a water feature. The orange grove is visible in the western portion of the view simulation. The new exhibit and multipurpose buildings located to the east of the arrival court are also visible through the landscaped driveway. The scale and architecture of the proposed buildings are designed to meld with the current surroundings and the new landscaping, while the Millennium Barn's visual status is enhanced. The eastern driveway, linking portions of the parking area to the Fairgrounds proper, is lined with tall palm trees similar to the primary entry.

The after development view from the public street is changed via the addition of new landscaping, new buildings, an orange grove, and removal of the masonry snackbar and restrooms. The proposed project does not degrade the existing visual character of the site or its surroundings because of the relatively low building heights, neutral toned building materials, and extensive use of landscape elements (Criterion 1-C). From this view, the proposed project is considered to have a less than significant visual effect.

View B—Arlington Drive. View B (Figure 4.1.3) provides a before and after view of the site from the public sidewalk on the north side of Arlington Drive looking south. This would be the view of a person playing softball in TeWinkle Park. The current view is dominated by a dirt path and a fence that run along the north side of the OCFEC and the maintenance and storage facility and entrance. The Grandstand Arena is visible to the east of the maintenance building, and hay bails and stable rooftops from the Equestrian Center are visible to the west. The after development view illustrates how the site will look from Arlington Drive after a section of the Equestrian Center is removed and new-livestock enclosures, maintenance buildings, an arena, and the east Arlington Drive entrance are constructed. After development, this view is dominated by improved landscaping along Arlington

Existing View.

View Simulation.

LSA

FIGURE 4.1.2

Orange County Fair and Exposition Center
View A Simulation

Existing View.

View Simulation.

LSA

FIGURE 4.1.3

Orange County Fair and Exposition Center
View B Simulation

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Existing View.

View Simulation.

LSA

FIGURE 4.1.4

Orange County Fair and Exposition Center
View C Simulation

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Drive and the new livestock building and maintenance yard. Landscaping improvements include perimeter landscaping of existing dirt areas and Eucalyptus trees along Arlington Drive that partially screen the backside of the buildings. The enclosure wall of the livestock area and maintenance yard is covered in vines to soften its visual effect. The pennants and roof of the new arena are visible above the roof line of the new livestock enclosure. To the west, the new entrance is marked by festival-style flagpoles. The palm trees lining the Newport Boulevard entrance are visible in the distance.

From this view, the project does not substantially degrade the existing character or quality of the site and its surroundings because of the relatively low building heights, neutral toned building materials, and extensive use of landscape elements (Criterion 1-C). Therefore, the proposed project is considered to have a less than significant visual effect.

View C—Orange Grove. View C (Figure 4.1.4) is taken from the parking lot near the existing entrance to the amphitheater. Although this is technically not a public vantage point, it has been included because it illustrates a significant change in appearance. The existing view shows the ticket booth and main entrance to the amphitheater. Nine flagpoles are evenly spaced along the perimeter of the entrance area. There are large trees along the sidewalk to the east of the entrance. There are also large trees along a driveway to the northwest.

The after development view shows from the parking lot that the ticket booth and entrance to the amphitheater have been replaced with an orange grove that stretches both east and northwest. The amphitheater itself is completely obscured by the orange grove. In the foreground, the twelve-foot wide sidewalk that runs along the perimeter of the proposed project can be seen. In the background, the entry driveway from Fairview Road is visible in the northwest, and the entry from Fair Drive is visible to the east. The new landscaping and palm trees delineate these entries.

The after development view from the parking lot is changed by the proposed project with the installation of the orange grove, the removal of the amphitheater ticket booth and entrance, and the provision of new landscaping around driveway entrances. The proposed project does not obstruct any views on the horizon from this vantage point. The view that will be blocked is of the amphitheater seating area. The proposed project does not degrade the existing visual character of the site or its surroundings because project development creates aesthetically designed and thematically linked landscape features where there are none currently (Criterion 1-C). From this view, the proposed project is considered to have a less than significant visual effect.

Summary of View Analysis. In summary, the proposed project provides benefits to views from the public rights-of-way because of the landscaping improvements and thematically linked architectural and landscape features. The low to moderate heights of the project buildings, the neutral building materials, and the substantial landscape elements seen in the view simulations are based on the proposed project. These qualities of the proposed project reduce potential impacts to below a level of significance for all vantage points.

Lighting

Project lighting will be added to provide even illumination of exterior spaces, particularly the parking areas, for security purposes. The seven 30-foot light standards that are currently in the parking area will be replaced with six 100-foot light standards. Computer models used during the Photometric study of the project site indicate that parking area light levels after project completion will closely match the existing lighting levels. The Photometric Study Area Map is provided in Appendix B.

The changes to on-site lighting will not adversely affect adjacent uses because there are no sensitive receptors to the east of the project site where the new light standards are to be installed and because new lighting fixtures will not increase the intensity of lighting levels above present conditions (Criterion 1-D). The effects of lighting on surrounding uses can therefore be considered less than significant.

Phasing

All aesthetic improvements will be implemented in concert with the phasing program established by the Master Plan as administered by the 32nd DAA Board of Directors. Construction activity areas will be "buffered" from the surrounding area by parking lots and security walls. Project phases will incrementally enhance the site's compatibility with adjacent land uses and establish a visual and aesthetic identity for the OCFEC. Project phasing will not create any short- or long-term impacts for aesthetics and will not trigger the need for mitigation.

4.1.5 SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

This project will not result in any significant unavoidable adverse impacts on aesthetics.

Drive and the new livestock building and maintenance yard. Landscaping improvements include perimeter landscaping of existing dirt areas and Eucalyptus trees along Arlington Drive that partially screen the backside of the buildings. The enclosure wall of the livestock area and maintenance yard is covered in vines to soften its visual effect. The pennants and roof of the new arena are visible above the roof line of the new livestock enclosure. To the west, the new entrance is marked by festival-style flagpoles. The palm trees lining the Newport Boulevard entrance are visible in the distance.

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4.2 AIR QUALITY

The Orange County Fair and Exposition Center is located within the City of Costa Mesa, which is part of the South Coast Air Basin (SCAB), and is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The air quality assessment for the proposed project includes estimating emissions associated with short-term construction and long-term operation of the proposed project.

A number of air quality modeling tools are available to assess air quality impacts of projects. In addition, certain air districts, such as the SCAQMD, have created guidelines and requirements to conduct air quality analyses. SCAQMD's current guidelines, *CEQA Air Quality Handbook, 1993*, were adhered to in the assessment of air quality impacts for the proposed project.

4.2.1 EXISTING ENVIRONMENTAL SETTING

Regional Air Quality

Both the State of California and the federal government have established health based Ambient Air Quality Standards (AAQS) for six air pollutants. As shown in Table 4.2.A, these pollutants include ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended coarse particulate matter equal to or less than 10 microns in diameter (PM_{10}), and lead. In July 1997, the EPA adopted new standards for eight-hour ozone and for fine particulate matter less than 2.5 microns in diameter ($PM_{2.5}$). In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles. These standards are designed to protect the health and welfare of the populace, with a reasonable margin of safety.

In addition to setting out primary and secondary AAQS, the State of California has established a set of episode criteria for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, and particulate matter. These criteria refer to episode levels representing periods of short-term exposure to air pollutants that actually threaten public health. Health effects are progressively more severe as pollutant levels increase from Stage One to Stage Three. Table 4.2.B lists the health effects of these criteria pollutants and their potential sources. These health effects would not occur unless the standards are exceeded by a large margin or for a prolonged period of time. The State AAQS are more stringent than the federal AAQS.

The California Clean Air Act (CCAA) provides the SCAQMD with the authority to manage transportation activities at indirect sources. Indirect sources of pollution are generated when minor sources collectively emit a substantial amount of pollution. Examples of this would be motor vehicles at an intersection, at a mall, and on highways. The SCAQMD also regulates stationary sources of pollution throughout its jurisdictional area. Direct emissions from motor vehicles are regulated by the California Air Resources Board (ARB).

Table 4.2.A: Ambient Air Quality Standards

Pollutant	Averaging Time	STATE	FEDERAL	
		Concentration	Primary	Secondary
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m³)	0.12 ppm (235 µg/m³)	Same as Primary Std.
	8 Hour	-	0.08 ppm	
Nitrogen Dioxide (NO_2)	Annual Average	-	0.053 ppm (100 µg/m³)	Same as Primary Std.
	1 Hour	0.25 ppm (470 µg/m³)	-	
Carbon Monoxide (CO)	8 Hour	9 ppm (10 mg/m³)	9 ppm (10 mg/m³)	-
	1 Hour	20 ppm (23 mg/m³)	35 ppm (40 mg/m³)	-
Suspended Coarse Particulate Matter (PM_{10})	Annual Geometric Mean	30 µg/m³	-	-
	24 Hour	50 µg/m³	150 µg/m³	Same as Primary Std.
	Annual Arithmetic Mean	-	50 µg/m³	-
Suspended Fine Particulate Matter ($PM_{2.5}$)	24 Hour	-	65 µg/m³	-
	Annual Arithmetic Mean	-	15 µg/m³	-
Sulfur Dioxide (SO_2)	Annual Average	-	80 µg/m³ (0.03 ppm)	-
	24 Hour	0.04 ppm (105 µg/m³)	365 µg/m³ (0.14 ppm)	-
	3 Hour	-	-	1,300 µg/m³ (0.5 ppm)
	1 Hour	0.25 ppm (655 µg/m³)	-	-
Lead	30-Day Average	1.5 µg/m³	-	-
	Calendar Quarter	-	1.5 µg/m³	Same as Primary Std.
Sulfates	24 Hour	25 µg/m³	-	-
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m³)	-	-
Vinyl Chloride (chloroethene)	24 Hour	0.010 ppm (26 µg/m³)	-	-
Visibility Reducing Particles	8 Hour (10 a.m.-6 p.m. PST)	*	-	-

Source: California Air Resources Board (ARB) 2001.
Notes: ppm = parts per million
mg/m³ = milligrams per cubic meter
µg/m³ = micrograms per cubic meter
*In sufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 percent. Measurement in accordance with ARB Method V.

Table 4.2.B: Health Effects Summary of the Major Criteria Air Pollutants

Pollutants	Sources	Primary Effects
Ozone (O_3)	Atmospheric reaction of organic gases with nitrogen oxides in the presence of sunlight.	Aggravation of respiratory and cardiovascular diseases. Irritation of eyes. Impairment of cardiopulmonary function. Plant leaf injury.
Nitrogen Dioxide (NO_2)	Motor vehicle exhaust. High temperature stationary combustion. Atmospheric reactions.	Aggravation of respiratory illness. Reduced visibility. Reduced plant growth. Formation of acid rain.
Carbon Monoxide (CO)	By-products from incomplete combustion of fuels and other carbon containing substances, such as motor exhaust. Natural Events, such as decomposition of organic matter.	Reduced tolerance for exercise. Impairment of mental function. Impairment of fetal development. Death at high levels of exposure. Aggravation of some heart diseases (angina).
Suspended Particulate Mater ($PM_{2.5}$ and PM_{10})	Stationary combustion of solid fuels. Construction activities. Industrial processes. Atmospheric chemical reactions.	Reduced lung function. Aggravation of the effects of gaseous pollutants. Aggravation of respiratory and cardiorespiratory diseases. Increased cough and chest discomfort. Soiling. Reduced visibility.
Sulfur Dioxide (SO_2)	Combustion of sulfur containing fossil fuels. Smelting of sulfur bearing metal ores. Industrial processes.	Aggravation of respiratory diseases (asthma, emphysema). Reduced lung function. Irritation of eyes. Reduced visibility. Plant injury. Deterioration of metals, textiles, leather, finishes, coatings, etc.
Lead (Pb)	Contaminated soil (e.g., from leaded fuels and lead based paints).	Impairment of blood function and nerve construction. Behavioral and hearing problems in children.

Source: ARB 2001.

Climate/Meteorology. Air quality in the planning area is not only affected by various emission sources (mobile, industry, etc.) but is also affected by atmospheric conditions such as wind speed, wind direction, temperature, and rainfall. The combination of topography, low mixing height, abundant sunshine, and emissions from the second largest urban area in the United States gives the SCAB the worst air pollution problem in the nation.

Climate in the SCAB is determined by its terrain and geographical location. The Basin is a coastal plain with connecting broad valleys and low hills. The Pacific Ocean forms the southwestern border, and high mountains surround the rest of the SCAB. The SCAB lies in the semipermanent high pressure zone of the eastern Pacific; the resulting climate is mild and tempered by cool ocean breezes. This climatological pattern is rarely interrupted. However, periods of extremely hot weather, winter storms, or Santa Ana wind conditions do occur.

The annual average temperature varies little throughout the Basin, ranging from the low to middle 60s, measured in degrees Fahrenheit. With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station closest to the site is the Newport Beach Harbor Station.[1] The monthly average maximum temperature recorded at this station from November 1934 to December 2001 ranged from 63.2°F in January to 73.6°F in August, with an annual average maximum of 67.9°F. The monthly average minimum temperature recorded at this station from November 1934 to December 2001 ranged from 46.6°F in January to 63.3°F in August, with an annual average minimum of 54.5°F. The climatological station next closest to the site is the Santa Ana Fire Station.[2] The monthly average maximum temperature recorded at the Santa Ana Fire Station from July 1948 to December 2001 ranged from 67.9°F in January to 84.2°F in August, with an annual average maximum of 75.4°F. The monthly average minimum temperature recorded at the Santa Ana Fire Station from July 1948 to December 2001 ranged from 44.9°F in January to 63.0°F in August, with an annual average minimum of 53.4°F. January is typically the coldest month, and August is typically the warmest month in this area of the Basin.

The majority of annual rainfall in the Basin occurs between November and April. Summer rainfall is minimal and is generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the Basin and along the coastal side of the mountains. The Newport Beach Harbor Station climatological station also monitored precipitation in the project area from November 1934 to December 2001. Average monthly rainfall measured in Newport Beach Harbor during that period varied from 2.40 inches in January to 0.29 inch or less between May and October, with an annual total of 11.49 inches. The Santa Ana Fire Station climatological station also monitored precipitation in the project area from July 1948 to December 2001. Average monthly rainfall measured in Santa Ana during that period varied from 3.11 inches in January to 0.26 inch or less between May and October, with an annual total of 12.99 inches. Patterns in monthly and yearly rainfall totals are unpredictable due to fluctuations in the weather.

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1 Western Regional Climate Center, wrcc@dri.edu.

2 Western Regional Climate Center, wrcc@dri.edu.

Although the SCAB has a semiarid climate, air near the surface is generally moist because of the presence of a shallow marine layer. With very low average wind speeds, there is a limited capacity to disperse air contaminants horizontally. The dominant daily wind pattern is an onshore 8 to 12 miles per hour (mph) daytime breeze and an offshore 3 to 5 mph nighttime breeze. The typical wind flow pattern fluctuates only with occasional winter storms or strong northeasterly (Santa Ana) winds from the mountains and deserts northeast of the SCAB. Summer wind flow patterns represent worst-case conditions, because this is the period of higher temperatures and more sunlight, which results in ozone formation.

Winds in the Costa Mesa area are almost always driven by the dominant land/sea breeze circulation system. Regional wind pattens are dominated by daytime onshore sea breezes. At night, the wind generally slows and reverses direction, traveling towards the sea. Wind direction is altered by local canyons, with wind tending to flow parallel to the canyons. During the transition period from one wind pattern to another, the dominant wind direction rotates into the south and causes a minor wind direction maximum from the south. The frequency of calm winds (i.e., less than two miles per hour) is less than 10 percent. Therefore, there is little stagnation in the vicinity of the Fairgrounds, especially during busy daytime traffic hours.

During spring and early summer, pollution produced during any one day is typically blown out of the SCAB through mountain passes or lifted by warm, vertical currents adjacent to mountain slopes. Air contaminants can be transported 60 miles or more from the SCAB by ocean air during the afternoons. From early fall to winter, the transport is less pronounced because of slower average wind speed and the appearance of drainage winds earlier in the day. During stagnant wind conditions, offshore drainage winds may begin by late afternoon. Pollutants remaining in the SCAB are trapped and begin to accumulate during the night and the following morning. A low-morning wind speed in pollutant source areas is an important indicator of air stagnation and the build-up potential for primary air contaminants.

Temperature normally decreases with altitude, and a reversal of this atmospheric state, where temperature increases with altitude, is called an inversion. The height from the earth to the inversion base is known as the mixing height. Persistent low inversions and cool coastal air tend to create morning fog and low stratus clouds. Cloudy days are less likely in the eastern portions of the SCAB and are about 25 percent more likely along the coast. The vertical dispersion of air pollutants in the SCAB is limited by temperature inversions in the atmosphere close to the earth's surface.

Inversions are generally lower in the nighttime, when the ground is cool, than during daylight hours, when the sun warms the ground and, in turn, the surface air layer. As this heating process continues, the temperature of the surface air layer approaches the temperature of the inversion base, causing heating along its lower edge. If enough warming takes place, the inversion layer becomes weak and opens up to allow the surface air layers to mix upward. This can be seen in the middle to late afternoon on a hot summer day when the smog appears to clear up suddenly. Winter inversions typically break earlier in the day, preventing excessive contaminant build-up.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations

are lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore into Riverside and San Bernardino Counties. In the winter, the greatest pollution problem is accumulation of carbon monoxide and oxides of nitrogen due to extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and oxides of nitrogen to form photochemical smog.

Air Pollution Constituents and Attainment Status. The following describes the six criteria air pollutants and their attainment status in the SCAB, based on California Air Resources Board's Area Designations, Activities, and Maps (ARB 2002). Table 4.2.C summarizes the attainment status in the South Coast Air Basin for these six criteria pollutants.

Table 4.2.C: Criteria Pollutants Attainment Status in the South Coast Air Basin

	State	Federal
Ozone	Nonattainment	Extreme Nonattainment
PM_{10}	Nonattainment	Serious Nonattainment
CO	Nonattainment (Los Angeles County only)	Nonattainment
NO_2	Attainment	Attainment/Maintenance
All others	Attainment/Unclassified	Attainment/Unclassified

Source: California Air Resources Board 2002.

Ozone. Ozone (smog) is formed by photochemical reactions between oxides of nitrogen and reactive organic gases rather than being directly emitted. Ozone is a pungent, colorless gas typical of Southern California smog. Elevated ozone concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors such as the sick, the elderly, and young children. Ozone levels peak during summer and early fall. The entire SCAB is designated as a nonattainment area for both federal and State ozone standards. The EPA has classified the SCAB as an "extreme" nonattainment area and has mandated that the SCAB achieve attainment by 2010.

Carbon Monoxide. Carbon monoxide (CO) is formed by the incomplete combustion of fossil fuels, almost entirely from automobiles. It is a colorless, odorless gas that can cause dizziness, fatigue, and impairments to central nervous system functions. The entire SCAB is designated as a nonattainment area for federal CO standards. However, Orange County, where the project is located, has not exceeded the federal carbon monoxide standards in the past five years. Orange County has been designated by ARB to be an attainment area for State CO standards.

Nitrogen Oxides. Nitrogen dioxide (NO_2), a reddish brown gas, and nitric oxide (NO), a colorless, odorless gas, are formed from fuel combustion under high temperature or pressure. These compounds are referred to as nitrogen oxides, or NO_X. NO_X is a primary component of the

photochemical smog reaction. It also contributes to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition (i.e., acid rain). NO_2 decreases lung function and may reduce resistance to infection. The entire SCAB has not exceeded both federal and State standards for nitrogen dioxide in the past five years with published monitoring data. It is designated as a maintenance area under the federal standards and an attainment area under the State standards.

Sulfur Dioxide. Sulfur dioxide (SO_2) is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO_2 levels. SO_2 irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight. The entire SCAB is in attainment with both federal and State sulfur dioxide standards.

Lead. Lead is found in old paints and coatings, plumbing, and a variety of other materials. Once in the blood stream, lead can cause damage to the brain, nervous system, and other body systems. Children are highly susceptible to the effects of lead. The entire SCAB is in attainment for the federal and State standards for lead.

Particulate Matter. Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles (all particles less than or equal to 10 micrometers in diameter, or PM_{10}) derive from a variety of sources, including windblown dust and grinding operations. Fuel combustion and resultant exhaust from power plants and diesel buses and trucks are primarily responsible for fine particle (less than 2.5 microns in diameter, or $PM_{2.5}$) levels. Fine particles can also be formed in the atmosphere through chemical reactions. Coarse particles (PM_{10}) can accumulate in the respiratory system and aggravate health problems such as asthma. The EPA's scientific review concluded that fine particles ($PM_{2.5}$), which penetrate deeply into the lungs, are more likely than coarse particles to contribute to the health effects listed in a number of recently published community epidemiological studies at concentrations that extend well below those allowed by the current PM_{10} standards. These health effects include premature death and increased hospital admissions and emergency room visits (primarily the elderly and individuals with cardiopulmonary disease); increased respiratory symptoms and disease (children and individuals with cardiopulmonary disease such as asthma); decreased lung functions (particularly in children and individuals with asthma); and alterations in lung tissue and structure and in respiratory tract defense mechanisms. The entire SCAB is a nonattainment area for the federal and State PM_{10} standards. The attainment status of $PM_{2.5}$ in the SCAB was not established by the EPA or the ARB at the time this analysis was prepared.

Local Air Quality

The SCAQMD, together with the California Air Resources Board (ARB), maintain ambient air quality monitoring stations in the South Coast Air Basin. The project site lies inside SCAQMD's Source Receptor Area 18. The air quality monitoring station closest to the site is the North Coastal

Orange County (Costa Mesa) station, located on Mesa Verde Drive near Harbor Boulevard, approximately one mile west of the Fairgrounds site. Therefore, its air quality trends are representative of the ambient air quality in the project area. The pollutants monitored are carbon monoxide, ozone, nitrogen dioxide, and sulfur dioxide.[1] The levels of suspended particulate matter monitored at the Anaheim station, the station closest to the project site that monitors suspended particulate matter levels, are included in these tables for reference.

The ambient air quality data in Tables 4.2.D1 and 4.2.D2 show that nitrogen dioxide, sulfur dioxide, and carbon monoxide levels are below the relevant State and federal standards at the Costa Mesa station. Ozone levels exceeded the Sate one-hour standard once in each of the past three years at this monitoring station. The federal eight-hour ozone standard was exceeded once in 2000 at the Costa Mesa monitoring station and was not exceeded in other years. The PM_{10} level monitored at the Anaheim station exceeded the State standards in each of the past three years, but has not exceeded the federal standards since 1996. $PM_{2.5}$ levels monitored at the Anaheim station exceeded the federal standard in each of the past three years, ranging from one to six days each year. There is no State standard for fine particulate matter ($PM_{2.5}$).

Regulatory Settings

Federal Regulations/Standards. Pursuant to the federal Clean Air Act (CAA) of 1970, the U.S. Environmental Protection Agency (EPA) established national ambient air quality standards (NAAQS). The NAAQS were established for six major pollutants, termed "criteria" pollutants. Criteria pollutants are defined as those pollutants for which the federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations in order to protect public health.

Data collected at permanent monitoring stations are used by the EPA to classify regions as "attainment" or "nonattainment," depending on whether the regions met the requirements stated in the primary NAAQS. Nonattainment areas are imposed with additional restrictions as required by the EPA.

The EPA has designated the Southern California Association of Governments (SCAG) as the Metropolitan Planning Organization (MPO) responsible for ensuring compliance with the requirements of the CAA for the SCAB.

The EPA established new national air quality standards for ground level ozone and fine particulate matter in 1997. On May 14, 1999, the Court of Appeals for the District of Columbia Circuit issued a decision ruling that the Clean Air Act, as applied in setting the new public health standards for ozone and particulate matter, was unconstitutional as an improper delegation of legislative authority to the EPA. On February 27, 2001, the U.S. Supreme Court upheld the way the government sets air quality standards under the Clean Air Act. The court unanimously rejected industry arguments that the EPA must consider financial cost as well as health benefits in writing standards. The justices also rejected

[1] Air quality data, 1997, 1998, 1999, 2000, 2001; California Air Resources Board Web site.

Table 4.2.D1: Ambient Air Quality at Costa Mesa Air Monitoring Station

	One-Hour Carbon Monoxide		One-Hour Ozone		Coarse Suspended Particulate (PM_{10})		Nitrogen Dioxide	
	Max. 1-Hour Conc. (ppm)[1]	Number of Days Exceeded	Max. 1-Hour Conc. (ppm)	Number of Days Exceeded	Max. 24-Hour Conc. ($\mu g/m^3$)	Number of Days Exceeded	Max. 1-Hour Conc. (ppm)	Number of Days Exceeded
State Stds.	> 20 ppm/1 hr		> .09 ppm/1 hr		> 50 $\mu g/m^3$, 24 hrs		> .25 ppm/1 hr	
2001	6.2	0	0.10	1	93[2]	9	0.08	0
2000	7.8	0	0.10	1	126	8	0.11	0
1999	7.9	0	0.10	1	122	15	0.12	0
MAXIMUM	**7.9**		**0.10**		**126**		**0.12**	
Federal Stds.	> 35 ppm/1 hr		> .12 ppm/1 hr		> 150 $\mu g/m^3$, 24 hrs		0.053 ppm, annual average	
2001	6.2	0	0.10	0	93	0	0.017	0
2000	7.8	0	0.10	0	126	0	0.020	0
1999	7.9	0	0.10	0	122	0	0.020	0
MAXIMUM	**7.9**		**0.10**		**126**		**0.020**	

Source: ARB and EPA 1999 to 2001.

[1] Data taken from EPA Web site; others taken from CARB Web site.

[2] Data taken from the Anaheim monitoring station.

Table 4.2.D2: Ambient Air Quality at Costa Mesa Air Monitoring Station

	Eight-Hour Carbon Monoxide		Eight-Hour Ozone		Fine Suspended Particulate ($PM_{2.5}$)		Sulfur Dioxide	
	Max. 8-Hour Conc. (ppm)	Number of Days Exceeded	Max. 8-Hour Conc. (ppm)	Number of Days Exceeded	Max. 24-Hour Conc. ($\mu g/m^3$)	Number of Days Exceeded	Max. 24-Hour Conc. (ppm)	Number of Days Exceeded
State Stds.	≥ 9.0 ppm/8 hr		No State Standard		No State Standard		> .04 ppm/24 hr	
2001	4.6	0	0.07	NA[1]	71[2]	NA[3]	0.005	0
2000	6.3	0	0.09	NA	114	NA	0.006	0
1999	6.4	0	0.08	NA	69	NA	0.005	0
MAXIMUM	**6.4**		**0.09**		**114**		**0.006**	
Federal Stds.	≥ 9.0 ppm/8 hr		> .08 ppm/8 hr		> 65 $\mu g/m^3$, 24 hrs		0.14 ppm/24 hr	
2001	4.6	0	0.07	0	71	1	0.001	0
2000	6.3	0	0.09	1	114	6	0.002	0
1999	6.4	0	0.08	0	69	2	0.002	0
MAXIMUM	**6.4**		**0.09**		**114**		**0.002**	

Source: ARB 1999 to 2001.

[1] No State standard to compare to.

[2] Data taken from the Anaheim monitoring station.

[3] No State standards.

arguments that the EPA took too much lawmaking power from Congress when it set tougher standards for ozone and soot in 1997. Nevertheless, the court threw out the EPA's policy for implementing new ozone rules, saying the agency ignored a section of the law that restricts its decision making authority. It ordered the agency to come up with a more "reasonable" interpretation of the law. At the time of completion of this report, the EPA had not established a new policy for ground level ozone and fine particulate matter.

State Regulations/Standards. The State of California began to set California ambient air quality standards (CAAQS) in 1969 under the mandate of the Mulford-Carrell Act. The CAAQS are generally more stringent than the NAAQS. In addition to the six criteria pollutants covered by the NAAQS, there are CAAQS for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles. These standards are also listed in Table A.

Originally, there were no attainment deadlines for CAAQS. However, the California Clean Air Act (CCAA) of 1988 provided a time frame and a planning structure to promote their attainment. The CCAA required nonattainment areas in the State to prepare attainment plans and proposed to classify each such area on the basis of the submitted plan, as follows: moderate, if CAAQS attainment could not occur before December 31, 1994; serious, if CAAQS attainment could not occur before December 31, 1997; and severe, if CAAQS attainment could not be conclusively demonstrated at all.

The attainment plans are required to achieve a minimum 5 percent annual reduction in the emissions of nonattainment pollutants unless all feasible measures have been implemented. The Basin is currently classified as a nonattainment area for three criteria pollutants.

Regional Air Quality Planning Framework. The 1976 Lewis Air Quality Management Act established the SCAQMD and other air districts throughout the State. The Federal Clean Air Act Amendments of 1977 required that each state adopt an implementation plan outlining pollution control measures to attain the federal standards in nonattainment areas of the state.

The ARB coordinates and oversees both State and federal air pollution control programs in California. ARB oversees activities of local air quality management agencies and is responsible for incorporating air quality management plans for local air basins into a State Implementation Plan (SIP) for the EPA approval. ARB maintains air quality monitoring stations throughout the State in conjunction with local air districts. Data collected at these stations are used by ARB to classify air basins as "attainment" or "nonattainment" with respect to each pollutant, and to monitor progress in attaining air quality standards. ARB has divided the State into 15 air basins. Significant authority for air quality control within them has been given to local air districts that regulate stationary source emissions and develop local nonattainment plans.

Regional Air Quality Management Plan. The SCAQMD and Southern California Association of Governments (SCAG) are responsible for formulating and implementing the Air Quality Management Plan (AQMP) for the Basin. Regional AQMPs were adopted for the Basin for

1979, 1982, 1989, 1991, 1994, and 1997. Compliance with the provisions of the federal Clean Air Act and California Clean Air Act is the primary focus of the AQMP developed by SCAQMD and SCAG.

The 1997 AQMP was prepared pursuant to federal and State clean air legislation and addresses 1990 Clean Air Act (CAA) requirements with respect to particulate matter standards. Under the CAA, the AQMP must demonstrate attainment of PM_{10} standards by 2006 for both 24-hour and annual average ambient air quality standards. The 1997 AQMP responds to this requirement, relying mostly on the control measures outlined in the 1994 AQMP. The 1997 AQMP also updates the demonstration of attainment of the federal ozone and CO standards, and includes a maintenance plan for NO_2, because the Basin now qualifies for attainment of the federal NO_2 standard.

According to the 1997 AQMP, attainment of all federal health standards is to occur no later than the year 2000 for carbon monoxide, the year 2006 for PM_{10}, and the year 2010 for ozone. State standards would be attained no later than the year 2000 for carbon monoxide. State standards for ozone and PM_{10} would not be achieved until after the year 2010.

The 1997 AQMP carried forward the approach and key elements in the 1994 AQMP by focusing on market based strategies and incentives versus command and control regulations. New elements to the 1997 Plan included: 1) improved emission inventory and current air quality information; 2) refined control strategy, which allows for alternative approaches; 3) elimination of future indirect source measures; 4) amendments to the federal post-1996 Rate of Progress Plan and Federal Attainment Plans for ozone and CO; 5) a maintenance plan for NO_X; and 6) an attainment demonstration and SIP revision for PM_{10}.

Implementation of the AQMP is based on a series of control measures that vary by source type, such as stationary or mobile, as well as by the pollutant targeted. Similar to the 1994 AQMP, the Plan proposed two tiers of control measures, based on the availability and readiness of technology. Short-term and immediate-term measures rely on known technologies and are expected to be implemented between 1997 and 2005. Long-term measures rely on the advancement of technologies and control methods that can be reasonably expected to occur between 2000 and 2010.

Control measures focus on adoption of new regulations or enhancement of existing regulations for stationary sources, implementation/facilitation of advanced transportation technologies (i.e., telecommunication, zero emission and alternative fuel vehicles and infrastructure, and both capital and noncapital based transportation improvements). Capital based improvements consist of high-occupancy vehicle (HOV) lanes; transit improvements; traffic flow improvements; park and ride and intermodal facilities; and urban freeway, bicycle, and pedestrian facilities. Noncapital based improvements consist of rideshare matching and CMP based transportation demand management activities.

The SCAQMD governing board approved the 1997 AQMP on November 15, 1996. After approval, the AQMP was submitted to the ARB for its review and approval. ARB approved the

ozone and PM_{10} portions of the 1997 AQMP on January 23, 1997, and submitted the plan to the EPA as proposed revisions to the SIP. The EPA rejected the District's revision of its 1997 AQMP in January 1999. The rejection, however, covers only the provisions of the AQMP designed to attain the federal ozone standard. Separate parts of the 1997 AQMP relating to carbon monoxide and nitrogen dioxide have previously been approved, and the EPA has yet to act on that portion of the 1997 AQMP related to fine particulate (PM_{10}). As a result of the rejection, SCAQMD prepared a draft "Proposed 1999 Amendment to the 1997 Ozone SIP Revision for the South Coast Air Basin" on October 7, 1999, for public review and comment. The 1999 Amendment proposed to revise the ozone portion of the 1997 AQMP that was submitted to the EPA as a revision to the Basin portion of the 1994 California Ozone SIP. The SCAQMD governing board adopted the "1999 Amendment to the 1997 Ozone SIP Revision for the South Coast Air Basin" on December 10, 1999. The EPA approved the 1999 Amendment for ozone in 2001, and currently there is no approved SIP for CO and PM_{10}. In addition, the SCAQMD governing board settled with three environmental organizations on its litigation of the 1994 Ozone SIP.

4.2.2 THRESHOLDS OF SIGNIFICANCE

A project would normally be considered to have a significant effect on air quality if the project would violate any ambient air quality standards, contribute substantially to an existing air quality violation, expose sensitive receptors to substantial pollutants concentrations, or conflict with adopted environmental plans and goals of the community in which it is located.

In addition to the federal and State Ambient Air Quality Standards (AAQS), there are daily and quarterly emissions thresholds for construction and operation of a proposed project in the SCAB. The SCAB is administered by the SCAQMD, and guidelines and emissions thresholds have been established by the SCAQMD in its CEQA Air Quality Handbook (SCAQMD, April 1993) are used in this analysis.

Thresholds for Construction Emissions

The following CEQA significance thresholds for construction emissions have been established for the SCAB:

- 75 pounds per day or 2.5 tons per quarter of reactive organic compounds (ROC)
- 100 pounds per day or 2.5 tons per quarter of NO_X
- 550 pounds per day or 24.75 tons per quarter of CO
- 150 pounds per day or 6.75 tons per quarter of PM_{10}
- 150 pounds per day or 6.75 tons per quarter of sulfur oxides (SO_X)

Projects in the SCAB with construction related emissions that exceed any of the emission thresholds should be considered to be significant under CEQA.

Thresholds for Operational Emissions

The daily operational emissions "significance" thresholds for the SCAB are as follows.

Emission Thresholds for Pollutants with Regional Effects. Projects with operation related emissions that exceed any of the emission thresholds listed below are considered significant under CEQA.

- 55 pounds per day of ROC
- 55 pounds per day of NO_X
- 550 pounds per day of CO
- 150 pounds per day of PM_{10}
- 150 pounds per day of SO_X

Local Microscale Concentration Standards. The significance of localized project impacts under CEQA depends on whether ambient CO levels in the vicinity of the project are above or below State and federal CO standards. If ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a State or federal standard, project emissions are considered significant if they increase one-hour CO concentrations by 1.0 part per million (ppm) or more or eight-hour CO concentrations by 0.45 ppm or more. The following are applicable local emission concentration standards for carbon monoxide.

- California State one-hour CO standard of 20.0 ppm
- California State eight-hour CO standard of 9.0 ppm

4.2.3 PROJECT DESIGN FEATURES

There are no project design features for air quality identified in this EIR.

4.2.4 IMPACTS AND MITIGATION MEASURES

Construction Impacts

Air quality impacts would occur during construction of the proposed project from soil disturbance and equipment exhaust. Major sources of emissions during grading and site preparation include exhaust emissions from construction vehicles and equipment and fugitive dust generated by construction vehicles and equipment traveling over exposed surfaces, as well as by soil disturbances from grading and backfilling. The following construction impact analysis summarizes construction emissions and associated impacts for all four project sites.

Construction Equipment Emissions. Grading and construction activities would cause combustion emissions from utility engines, heavy-duty construction vehicles, haul trucks, and vehicles transporting the construction crew. Exhaust emissions during grading and other construction activities envisioned on site vary daily as construction activity levels change. Peak grading days typically generate a larger amount of air pollutants than during other project construction days.

The Orange County Fairgrounds proposes to remove the earthen berm from the closed amphitheater. It is estimated that 200,000 cubic yards of material would need to be removed. It is assumed that the removal of the material would be completed under several time periods: 30 days, 45 days, 60 days, 90 days, and 120 days. The following lists the assumptions made for this analysis:

- Caterpillar 966 rubber tire loaders and/or excavators with tracks would be used for the on-site removal of the berm material.
- Approximately 300 feet distance for loaders traveling on haul routes on site.
- Approximately 500 feet distance for vehicle travel on unpaved roads on site.
- Belly or end dump trucks, with 25 ton loaded beds carrying 15- to 18-yard loads, would be used to haul the material off site.
- A water truck would also be used on site for dust control.
- A 20 mile one-way trip length was assumed for haul trucks to the offsite deposit location.
- A 20 mile one-way trip length was assumed for construction workers commute length.

Based on the above description of the proposed action and assumptions identified, Table 4.2.E lists the emissions associated with a 30-day schedule. Table 4.2.F lists the emissions associated with various assumed construction schedules. The NO_X emissions would exceed SCAQMD daily emission threshold of 100 pounds per day under all construction schedules analyzed. The mitigated PM_{10} emissions would exceed the SCAQMD daily emissions threshold under the 30 days and 45 days construction schedules. It is therefore concluded that removal of the earthen berm under the assumed construction schedules would result in significant air quality impacts.

Construction of other components of the proposed project would result in additional equipment/ vehicle exhaust as well as fugitive dust emissions. They would add to the exceedance of the SCAQMD daily emissions thresholds by the removal of the earthen berm. Therefore, significant air quality impacts during project construction would remain even after implementation of mitigation measures.

Table 4.2.E: Peak Day Construction Equipment Exhaust Emissions—30–Day Schedule

Number and Equipment Type[1]	Daily Hours/Miles	Pollutants[2] (pounds/day)				
		CO	ROC	NO_X	SO_X	PM10
14 Wheeled Dozers	8 hours each	171	31	357	31	23
1 Water Truck	15 miles	0.6	0.0	0.2	0.0	0.0
444 Trips: Haul Trucks	40 miles each	255.3	42.7	369.7	0.0	26.2
30 Trips: Workers Commute[3]	40 miles each	9.0	0.5	1.8	0.0	0.0
TOTAL		**436**	**74**	**729**	**31**	**50**
SCAQMD Threshold		**550**	**75**	**100**	**150**	**150**
Exceed Threshold?		**NO**	**NO**	**YES**	**NO**	**NO**

Source: LSA Associates, Inc. 2002.

Table 4.2.F: Construction Emissions (lbs/day) Based on Various Construction Schedules

Schedule	Pollutant				
	CO	ROC	NO_X	SO_X	PM_{10}[4]
30 days	436	74	**729**[5]	31	**217**
45 days	299	51	**503**	22	**152**
60 days	218	37	**365**	16	118
90 days	150	26	**252**	11	85
120 days	116	20	**195**	9	69
SCAQMD Thresholds	550	75	100	150	150

Source: LSA Associates, Inc. 2002.

1 Number of equipment, equipment type, and number of workers are estimated based on a 30-day berm removal schedule and materials to be transported off site.

2 Emissions factors are from SCAQMD CEQA Air Quality Handbook, Table A9-8-A, Table A9-8-B, and Table A9-8-C.

3 Assuming 30 workers traveling 40 miles round-trip per worker.

4 Mitigated emissions with watering twice a day minimum.

5 Number in bold represents emissions exceed the SCAQMD threshold.

Fugitive Dust. Fugitive dust emissions are generally associated with grading, land clearing, exposure, vehicle and equipment travel on unpaved roads, and dirt/debris pushing. Dust generated during construction activities would vary substantially, depending on the level of activity, the specific operations, and weather conditions. Nearby sensitive receptors and workers may be exposed to blowing dust, depending upon prevailing wind conditions.

Building construction uses different types of equipment on the project site than during the grading period. Similarities do exist in terms of equipment exhaust emissions and fugitive dust emissions. However, it is anticipated that emissions during building construction would be below peak grading day emissions. Therefore, implementation of the mitigation measures specified below for the peak grading day emissions would be adequate to reduce emissions during other construction periods.

PM_{10} emissions from berm removal and grading operations during a peak construction day are based on various schedules. The SCAQMD estimates that each acre of graded surface creates about 26.4 pounds of PM_{10} per workday during the construction phase of the project and 21.8 pounds of PM_{10} per hour from dirt/debris pushing per dozer. Based on the material handling, loaders traveling on haul road, vehicle travel on unpaved surfaces, and wind erosion of disturbed areas, the uncontrolled PM_{10} emissions would be 334 pounds per day for the 30-day schedule. This level of dust emission would exceed the SCAQMD threshold of 150 pounds per day during construction. Table 4.2.F lists fugitive dust emissions and construction equipment exhausts for various construction schedules.

Prior to issuance of grading permits, the 32nd DAA Board of Directors and/or the California Construction Authority is required to include a dust control plan as part of the construction contract standard specifications, per AQMD rules. The dust control plan will specify measures to be implemented during grading activities, consistent with SCAQMD Rules 402 and 403. Rule 402 requires that there be no dust impacts off site sufficient to cause a nuisance, and Rule 403 restricts visible dust emissions from construction. The SCAQMD Rules 402 and 403 fugitive dust control techniques are further summarized below. Implementation of these dust suppression techniques as required by the SCAQMD can reduce the fugitive dust generation (and thus the PM_{10} component) by 50 to 75 percent. Compliance with the following rules (these measures will be noted on the grading plan cover sheet) would reduce impacts on nearby sensitive receptors and reduce PM_{10} in the air basin:

- Portions of the construction site to remain inactive longer than a period of three months shall be seeded and watered until grass cover is grown.
- All active portions of the construction site shall be watered to prevent excessive amounts of dust.
- On-site vehicle speed shall be limited to 15 mph.
- All on-site roads shall be paved as soon as feasible or watered periodically or chemically stabilized.
- All material excavated or graded shall be sufficiently watered to prevent excessive amounts of dust. Watering, with complete coverage, shall occur at least twice daily, preferably in the late morning and after work is done for the day.

- All clearing, grading, earth moving, or excavation activities shall cease during periods of high winds (i.e., greater than 25 mph averaged over one hour) or during Stage 1 or Stage 2 episodes.
- All material transported off site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust.
- The area disturbed by clearing, grading, earth moving, or excavation operations shall be minimized at all times.

With implementation of SCAQMD Rules 402 and 403 requirements, fugitive dust emissions resulting from construction activities are expected to be reduced to 167 pounds or less per day, with 50 percent effectiveness. Combined with the 50 pounds per day generated by equipment exhaust and vehicle travel, the total mitigated dust emission of 217 pounds per day would remain higher than the SCAQMD threshold of 150 pounds per day. Therefore, specific mitigation and monitoring are recommended to control dust (see Mitigation Measures 2-2, 2-3, and 2-4).

Implementation of Mitigation Measures 2-1 and 2-5 and compliance with SCAQMD Rules 402 and 403 will reduce short-term construction emissions resulting from construction equipment, fugitive dust, and architectural coatings; however, the resulting impacts would remain significant and are considered unavoidable significant impacts.

Mitigation Measure 2-1 In order to reduce short-term construction impacts from emissions from equipment and vehicles, prior to issuance of the Notice to Proceed, the following measures shall be included on all construction plans and in all construction contracts, to the satisfaction of the California Construction Authority:

- The Construction Contractor shall select the construction equipment used on site based on low emission factors and high energy efficiency, as reported by the federal government.
- The Construction Contractor shall ensure that construction plans include a statement that work crews must shut off equipment when not in use. During smog season (May through October) the overall length of the construction period will be extended, thereby decreasing the size of the area prepared each day, to minimize vehicles and equipment operating at the same time.
- The Construction Contractor shall utilize electric or diesel powered equipment in lieu of gasoline powered engines, where feasible.
- The Construction Contractor shall ensure that construction grading plans include a statement that all construction equipment will be tuned and maintained in accordance with the manufacturer's specifications.

- The Construction Contractor shall time the construction activities so as not to interfere with peak hour traffic and so as to minimize obstruction of through traffic lanes adjacent to the site; if necessary, a flag person shall be retained to maintain safety adjacent to existing roadways.

- The Construction Contractor shall provide ridesharing and transit incentives for the construction crew, such as free bus passes and preferred carpool parking.

Mitigation Measure 2-2 In order to reduce fugitive dust from construction activities, the following shall be implemented by the applicant prior to commencement of grading or excavation:

Prior to issuance of the Notice to Proceed, the California Construction Authority shall verify that the following provisions are included in the grading contractor's contract:

1. During clearing, grading, earthmoving, excavation, or transportation of cut or fill materials, water trucks or sprinkler systems shall be used to prevent dust from leaving the site and to create a crust after each day's activities cease.

2. During construction, water trucks or sprinkler systems shall be used to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this would include wetting down such areas in the late morning, after work is completed for the day, and whenever wind exceeds 15 miles per hour.

3. Immediately after clearing, grading, earthmoving, or excavation is completed, the entire area of disturbed soil shall be treated until the area is paved or otherwise developed so that dust generation will not occur.

4. Soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binder to prevent dust generation.

Mitigation Measure 2-3 In order to reduce fugitive dust from on-site and off-site vehicle activity, the following measures shall be implemented by the applicant and the contractor during the period of construction:

The California Construction Authority shall verify that the following provisions are included in the grading contractor's contract prior to issuance of the Notice to Proceed:

1. All trucks hauling, dirt, sand, soil, or other loose materials are to be covered, or shall maintain at least two feet of freeboard in accordance with the requirements of California Vehicle Code section 23114 ("freeboard" means vertical space between the top of the load and top of the trailer); covering shall be tightly secured to truck.

2. Sweep adjacent streets once a day if visible soil materials are carried to adjacent streets (recommend water sweepers with reclaimed water). Sweep streets immediately after period of heaviest vehicular track-out activity.

3. Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and any equipment leaving the site each trip. Set up truck washing area on paved access road area so subsequent truck travel on unpaved roads can be eliminated.

4. Pave or provide gravel roadbed on all on-site construction access roads at least 100 feet onto the site from main road.

5. Apply water three times daily, or apply non-toxic soil stabilizers, according to manufacturers' specifications, to all inactive construction areas (previously graded areas inactive for 10 days or more).

6. Traffic speeds on all unpaved roads shall be reduced to 15 mph or less; effective traffic control or signage shall be installed and maintained.

7. Daily and weekly monitoring reports by the monitor, acceptable to the 32nd DAA Board of Directors and the California Construction Authority, shall be submitted to the California Construction Authority Project Manager, by the contractor.

Mitigation Measure 2-4 A construction and construction related activity monitor satisfactory to the 32nd DAA Board of Directors and the California Construction Authority shall be retained by the applicant prior to issuance of the Notice to Proceed. The monitor shall monitor all activity on a daily basis, keep written daily records, and file daily activity reports with the California Construction Authority Project Manager, for the duration of grading and construction. The monitor shall be employed by the OCFEC or California Construction Authority, and shall file reports with the California Construction Authority Project Manager. The monitor shall report on the following strategies:

- Construction equipment exhaust shall be minimized by use of the following:
  - NO_X control technologies, such as fuel injection timing retard for diesel engines and air to air after cooling.
  - Low sulfur fuel.
  - Well maintained equipment and proper planning to minimize trips/use.
  - Log fuel use, hours of operation, and periodic maintenance.
- Fugitive dust shall be controlled as specified in Mitigation Measures 2-2 and 2-3, and SCAQMD rules and regulations.
- Restrict delivery of construction supplies and off-site hauling of debris to non-peak travel periods whenever feasible, except for concrete and earthwork related activities.
- Construction worker travel in carpools shall be encouraged by common carpool registry, maintained at the construction site and managed by the applicant.
- Application of building materials and architectural coatings shall be controlled by applicable SCAQMD rules and Mitigation Measure 2-5.

Architectural Coatings. Architectural coatings contain volatile organic compounds (VOC) that are similar to ROC and are part of the ozone precursors. Although the project does not result in VOC emissions that exceed thresholds of significance, implementation of Mitigation Measure 2-8 will further reduce the project's VOC emissions from architectural coatings.

Mitigation Measure 2-5 In order to reduce short-term construction emissions, the following mitigation measure shall be included on construction plans. The California Construction Authority shall verify inclusion of this measure prior to issuance of the Notice to Proceed.

The construction contractor shall utilize precoated/natural color building materials, water based or low VOC coating, and coating transfer or spray equipment with high transfer efficiency, such as the high volume low pressure (HVLP) spray method, or use manual coating application methods such as the paint brush, hand roller, trowel, spatula, dauber, rag, or sponge.

Long-Term Regional Air Quality Impacts

Long-term air emission impacts are those associated with stationary sources and mobile sources related to any change occurring as a result of the proposed project.

Based on the traffic study prepared for the proposed project (LSA, November 2002), the project has several scenarios for the operations at the project site. Emissions generated by vehicular exhaust associated with these events are shown in Table 4.2.G. Emissions associated with on-site stationary sources, such as natural gas consumption, would be small and would come from power plants outside the project area and possibly outside the air basin. They are also included in Table 4.2.G. The following discusses these operations scenarios.

Table 4.2.G: Project Operational Emissions

Scenario	Pollutant, lbs/day				
	CO	ROC[1]	NO_X[2]	SO_2	PM_{10}
Typical Weekend[3]	0	0	0	0	0
Interim Event	236.04	20.68	29.06	0.15	9.81
Interim Event with Concert	**1,853.12**[4]	**157.64**	**228.73**	1.20	77.23
Fair Event	344.74	29.36	42.48	0.22	14.34
SCAQMD Threshold	550	55	55	150	150

Source: LSA Associates, Inc., November 2002.

Typical Weekend. Consistent with the traffic analysis, the air quality analysis assumes that the changes proposed in the Master Plan would not affect the weekend operations of the swap meet within the Fairgrounds. Traffic trips associated with the swap meet were counted as part of the background conditions. Therefore, no project related vehicle trips are assumed for the Typical Weekend scenario. No project related emissions would be generated.

Interim Event. The Interim Event would generate 1,580 average daily trips (ADT). Table 4.2.G shows that emissions of all criteria pollutants for the Interim Event would be below the daily emissions thresholds established by the SCAQMD. This would be a less than significant impact.

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1 Winter emissions: Usually higher than summer season.

2 Winter emissions: Higher than summer season.

3 No project related emissions would occur under the Typical Weekend scenario.

4 Numbers in bold represent emissions exceed the SCAQMD threshold.

Interim Event with Concert. Interim Event with Concert would generate 12,434 ADT. Emissions of CO, NO_X and ROC for the Interim Event with Concert scenario would exceed the SCAQMD daily emissions thresholds. This would be a significant air quality impact. There are no feasible mitigation measures to reduce this potential air quality impact to a less than significant level.

Fair Event. The Fair Event would generate 2,310 ADT. Table 4.2.G shows that emissions of all criteria pollutants for the Fair Event would be below the daily emissions thresholds established by the SCAQMD. This would be a less than significant impact.

Long-Term Microscale Projections

Localized air quality effects would occur when emissions from vehicular traffic increase in local areas as a result of the proposed project. The primary mobile source pollutant of local concern is CO. CO is a direct function of vehicle idling time and, thus, traffic flow conditions. CO transport is extremely limited; it disperses rapidly with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations proximate to a congested roadway or intersection may reach unhealthful levels affecting local sensitive receptors (residents, school children, the elderly, hospital patients, etc). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes. In areas with high ambient background CO concentration, modeling is recommended to determine a project's effect on local CO levels.

An assessment of project related impacts on localized ambient air quality requires that future ambient air quality levels be projected. Existing CO concentrations in the immediate project vicinity are not available. Ambient CO levels monitored at the North Coastal Orange (Costa Mesa) station, the closest station with monitored CO data, showed a highest recorded one-hour concentration of 7.8 ppm (State standard is 20 ppm) and a highest eight-hour concentration of 6.2 ppm (State standard is 9 ppm) during the past five years (see Table 4.2.D1).

The highest CO concentrations would occur during peak traffic hours; hence, CO impacts calculated under peak traffic conditions represent a worst-case analysis. Based on the traffic study (LSA, November 2002), CO hot spot analyses were conducted for existing and future cumulative conditions. There are four operations scenarios for the years analyzed: Typical Weekend, Interim Event, Interim Event with Concert, and Fair Event. Based on the traffic study, there is a baseline for every operations scenario. The Master Plan would add to each of these baseline scenarios. In addition, because the concerts do not start until after the afternoon peak hours, the CO hot spot analysis, which is conducted typically using the afternoon peak hour turn volumes, for the Interim Event with Concert scenario would be similar to the Interim Event scenario.

The impact on local carbon monoxide levels was assessed with the ARB approved CALINE4 air quality model, which allows microscale CO concentrations to be estimated along roadway corridors or near intersections. This model is designed to identify localized concentrations of carbon monoxide, often termed "hot spots." A brief discussion of input to the CALINE4 model follows.

The analysis was performed for the worst-case wind angle and wind speed condition and is based upon the following assumptions:

- Selected modeling locations represent the intersections closest to the project site, with the highest project related vehicle turning movements and the worst level of service deterioration.
- Twenty receptor locations, with the possibility of extended outdoor exposure from 2.2 (approximately 7 feet) to 22 meters (approximately 71 feet) of the roadway centerline near intersections, were modeled to determine carbon monoxide concentrations.
- The calculations assume a meteorological condition of almost no wind (0.5 meter/second), a suburban topographical condition between the source and receptor, and a mixing height of 1,000 meters, representing a worst-case scenario for CO concentrations.
- CO concentrations are calculated for the one-hour averaging period and then compared to the one-hour standards. CO eight-hour averages are extrapolated using techniques outlined in the SCAQMD CEQA Air Quality Handbook, October 1993, and compared to the eight-hour standards; a persistence factor of 0.6 was used to predict the eight-hour concentration in an attainment area.
- Concentrations are given in ppm at each of the receptor locations.
- The "at-grade" link option, with speed adjusted based on average cruise speed and number of vehicles per lane per hour, was used rather than the "intersection" link selection in the CALINE4 model. (Caltrans has suggested that the "intersection" link should not be used due to an inappropriate algorithm based on outdated vehicle distribution.) Emission factors from EMFAC 2001 Model for all vehicles based on the adjusted speed for the year 2002 and 2025 were used for the vehicle fleet.
- The highest level of the second highest one-hour and eight-hour CO concentrations monitored at the Costa Mesa station in the past three years were used as background concentrations, as recommended by the EPA for an area without projected future background concentrations. The "background" concentrations are then added to the model results for future with and without the proposed project conditions. The projected CO concentrations are 7.8 ppm for the one-hour CO and 6.2 ppm for the eight-hour CO. No rolled-back factor was applied for future scenarios for a worst-case scenario, as suggested by the SCAQMD staff.

Tables 4.2.H through 4.2.J show the CO levels for the Typical Event/Master Plan Typical Event, Interim Event/Master Plan Interim Event, and Fair Event/Master Plan Fair Event under existing conditions. Tables 4.2.K through 4.2.M show the CO levels for the Typical Event/Master Plan Typical Event, Interim Event/Master Plan Interim Event, and Fair Event/Master Plan Fair Event under future cumulative conditions. For both existing and future cumulative conditions, there is no exceedance of either the State or federal CO standards for the one-hour or the eight-hour durations. Most of the projected increases from the baseline levels would be small (0.1 ppm or less), except at the intersection of Newport Boulevard (South) and Fair Drive (up to 0.8 ppm for the one-hour CO and up to 0.5 ppm for the eight-hour CO) under the existing Interim Event/Master Plan Interim Event; at the intersections of Harbor Boulevard and Adams Avenue (up to 0.5 ppm for the one-hour

Table 4.2.H: Existing Typical Conditions Intersection CO Concentrations

Intersection	Distance to Receptor Location from Roadway Centerline (meters)	Typical Weekend 1-Hr/8-Hr CO Concentration[1] (ppm)	Master Plan Typical 1-Hr/8-Hr CO Concentration[2] (ppm)	Increase over Baseline Level 1 hr	8 hr
Harbor Boulevard and Adams Avenue	19	11.1/8.2	11.1/8.2	0.0	0.0
	22	11.0/8.1	11.0/8.1	0.0	0.0
	21	10.8/8.0	10.8/8.0	0.0	0.0
	22	10.8/8.0	10.8/8.0	0.0	0.0
Fairview Road and Fair Drive	21	9.8/7.4	9.8/7.4	0.0	0.0
	15	9.8/7.4	9.8/7.4	0.0	0.0
	17	9.5/7.2	9.5/7.2	0.0	0.0
	15	9.4/7.2	9.4/7.2	0.0	0.0
Fairview Road and I-405 southbound ramps	17	10.4/7.8	10.4/7.8	0.0	0.0
	7	10.4/7.8	10.4/7.8	0.0	0.0
	15	10.3/7.7	10.3/7.7	0.0	0.0
	7	10.3/7.7	10.3/7.7	0.0	0.0
Fairview Road and I-405 northbound ramps	7	10.7/7.9	10.7/7.9	0.0	0.0
	17	10.6/7.9	10.6/7.9	0.0	0.0
	17	10.4/7.8	10.4/7.8	0.0	0.0
	17	10.4/7.8	10.4/7.8	0.0	0.0
Vanguard Way and Fair Drive	12	9.7/7.3	9.7/7.3	0.0	0.0
	15	9.4/7.2	9.4/7.2	0.0	0.0
	8	9.4/7.2	9.4/7.2	0.0	0.0
	12	9.3/7.1	9.3/7.1	0.0	0.0
Newport Boulevard (South) and Fair Drive	12	10.6/7.9	10.6/7.9	0.0	0.0
	15	10.6/7.9	10.6/7.9	0.0	0.0
	8	10.3/7.7	10.3/7.7	0.0	0.0
	12	10.2/7.6	10.2/7.6	0.0	0.0
Newport Boulevard (North) and Del Mar Avenue	10	10.3/7.7	10.3/7.7	0.0	0.0
	10	10.2/7.6	10.2/7.6	0.0	0.0
	11	10.0/7.5	10.0/7.5	0.0	0.0
	10	10.0/7.5	10.0/7.5	0.0	0.0

Source: LSA Associates, Inc., November 2002.

[1] Includes ambient one-hour CO concentration of 7.7 ppm. The State's one-hour CO standard is 20 ppm. CO concentrations at all receptor locations would be the same with or without project.

[2] Includes ambient eight-hour CO concentration of 5.5 ppm. The State's eight-hour CO standard is 9.0 ppm. CO concentrations at all receptor locations would be the same with or without project.

Table 4.2.I: Existing Interim Event Conditions Intersection CO Concentrations

Intersection	Distance to Receptor Location from Roadway Centerline (meters)	Interim Event 1-Hr/8-Hr CO Concentration[1] (ppm)	Master Plan Interim Event 1-Hr/8-Hr CO Concentration[2] (ppm)	Increase over Baseline Level 1 hr	8 hr
Harbor Boulevard and Adams Avenue	21	11.1/8.2	11.1/8.2	0.0	0.0
	22	11.0/8.1	11.0/8.1	0.0	0.0
	19	10.8/8.0	10.8/8.0	0.0	0.0
	22	10.8/8.0	10.8/8.0	0.0	0.0
Fairview Road and Fair Drive	15	9.8/7.4	9.9/7.5	0.1	0.1
	15	9.8/7.4	9.9/7.5	0.1	0.1
	15	9.5/7.2	9.5/7.2	0.0	0.0
	17	9.4/7.2	9.5/7.2	0.1	0.0
Fairview Road and I-405 southbound ramps	17	10.4/7.8	10.5/7.8	0.1	0.0
	7	10.4/7.8	10.5/7.8	0.1	0.0
	17	10.3/7.7	10.4/7.8	0.1	0.1
	7	10.3/7.7	10.4/7.8	0.1	0.1
Fairview Road and I-405 northbound ramps	7	10.7/7.9	10.7/7.9	0.0	0.0
	17	10.6/7.9	10.6/7.9	0.0	0.0
	17	10.4/7.8	10.4/7.8	0.0	0.0
	17	10.4/7.8	10.4/7.8	0.0	0.0
Vanguard Way and Fair Drive	12	9.6/7.3	9.7/7.3	0.1	0.0
	8	9.3/7.1	9.4/7.2	0.1	0.1
	15	9.3/7.1	9.4/7.2	0.1	0.1
	12	9.2/7.0	9.3/7.1	0.1	0.1
Newport Boulevard (South) and Fair Drive	15	10.6/7.9	11.4/8.4	0.8	0.5
	7	10.6/7.9	11.4/8.4	0.8	0.5
	14	10.3/7.7	11.0/8.1	0.7	0.4
	7	10.2/7.6	10.8/8.0	0.6	0.4
Newport Boulevard (North) and Del Mar Avenue	10	10.3/7.7	10.3/7.7	0.0	0.0
	10	10.2/7.6	10.3/7.7	0.1	0.1
	11	10.0/7.5	10.1/7.6	0.1	0.1
	10	10.0/7.5	10.0/7.5	0.0	0.0

Source: LSA Associates, Inc., November 2002.

[1] Includes ambient one-hour CO concentration of 7.7 ppm. The State's one-hour CO standard is 20 ppm. CO concentrations at all receptor locations would be the same with or without project.

[2] Includes ambient eight-hour CO concentration of 5.5 ppm. The State's eight-hour CO standard is 9.0 ppm. CO concentrations at all receptor locations would be the same with or without project.

Table 4.2.J: Existing Fair Event Conditions Intersection CO Concentrations

Intersection	Distance to Receptor Location from Roadway Centerline (meters)	Fair Event 1-Hr/8-Hr CO Concentration[1] (ppm)	Master Plan Fair Event 1-Hr/8-Hr CO Concentration[2] (ppm)	Increase over Baseline Level 1 hr	8 hr
Harbor Boulevard and Adams Avenue	21	11.0/8.2	11.0/8.1	0.0	0.0
	22	10.9/8.1	10.9/8.1	0.0	0.0
	19	10.8/8.0	10.8/8.0	0.0	0.0
	22	10.8/8.0	10.8/8.0	0.0	0.0
Fairview Road and Fair Drive	15	9.3/7.1	9.4/7.2	0.1	0.1
	15	9.2/7.0	9.2/7.0	0.0	0.0
	15	9.2/7.0	9.2/7.0	0.0	0.0
	17	9.1/7.0	9.2/7.0	0.1	0.0
Fairview Road and I-405 southbound ramps	7	10.5/7.8	10.6/7.9	0.1	0.1
	17	10.4/7.8	10.5/7.8	0.1	0.0
	17	10.3/7.7	10.4/7.8	0.1	0.1
	21	10.3/7.7	10.3/7.7	0.0	0.0
Fairview Road and I-405 northbound ramps	7	10.6/7.9	10.6/7.9	0.0	0.0
	17	10.4/7.8	10.5/7.8	0.1	0.0
	17	10.3/7.7	10.3/7.7	0.0	0.0
	17	10.3/7.7	10.3/7.7	0.0	0.0
Vanguard Way and Fair Drive	12	9.1/7.0	9.2/7.0	0.1	0.0
	12	9.0/6.9	9.0/6.9	0.0	0.0
	8	8.9/6.9	9.0/6.9	0.1	0.0
	14	8.9/6.9	9.0/6.9	0.1	0.0
Newport Boulevard (South) and Fair Drive	15	9.4/7.2	9.4/7.2	0.0	0.0
	14	9.2/7.0	9.2/7.0	0.0	0.0
	7	9.2/7.0	9.2/7.0	0.0	0.0
	7	9.0/6.9	9.1/7.0	0.1	0.1
Newport Boulevard (North) and Del Mar Avenue	10	9.5/7.2	9.5/7.2	0.0	0.0
	10	9.5/7.2	9.5/7.2	0.0	0.0
	11	9.4/7.2	9.4/7.2	0.0	0.0
	10	9.3/7.1	9.4/7.2	0.1	0.1

Source: LSA Associates, Inc., November 2002.

[1] Includes ambient one-hour CO concentration of 7.7 ppm. The State's one-hour CO standard is 20 ppm. CO concentrations at all receptor locations would be the same with or without project.

[2] Includes ambient eight-hour CO concentration of 5.5 ppm. The State's eight-hour CO standard is 9.0 ppm. CO concentrations at all receptor locations would be the same with or without project.

Table 4.2.K: Cumulative Typical Conditions Intersection CO Concentrations

Intersection	Distance to Receptor Location from Roadway Centerline (meters)	Typical Weekend 1-Hr/8-Hr CO Concentration[1] (ppm)	Master Plan Typical 1-Hr/8-Hr CO Concentration[2] (ppm)	Increase over Baseline Level 1 hr	8 hr
Harbor Boulevard and Adams Avenue	19	9.5/7.2	9.5/7.2	0.0	0.0
	21	9.5/7.2	9.5/7.2	0.0	0.0
	22	9.4/7.2	9.4/7.2	0.0	0.0
	22	9.4/7.2	9.4/7.2	0.0	0.0
Fairview Road and Fair Drive	15	8.7/6.7	8.7/6.7	0.0	0.0
	15	8.7/6.7	8.7/6.7	0.0	0.0
	15	8.6/6.7	8.6/6.7	0.0	0.0
	17	8.5/6.6	8.5/6.6	0.0	0.0
Fairview Road and I-405 southbound ramps	17	9.3/7.1	9.3/7.1	0.0	0.0
	7	9.2/7.0	9.2/7.0	0.0	0.0
	15	9.2/7.0	9.2/7.0	0.0	0.0
	7	9.1/7.0	9.1/7.0	0.0	0.0
Fairview Road and I-405 northbound ramps	7	9.5/7.2	9.5/7.2	0.0	0.0
	17	9.5/7.2	9.5/7.2	0.0	0.0
	17	9.4/7.2	9.4/7.2	0.0	0.0
	17	9.4/7.2	9.4/7.2	0.0	0.0
Vanguard Way and Fair Drive	8	8.5/6.6	8.5/6.6	0.0	0.0
	12	8.5/6.6	8.5/6.6	0.0	0.0
	12	8.5/6.6	8.5/6.6	0.0	0.0
	8	8.5/6.6	8.5/6.6	0.0	0.0
Newport Boulevard (South) and Fair Drive	7	9.1/7.0	9.1/7.0	0.0	0.0
	15	9.1/7.0	9.1/7.0	0.0	0.0
	14	8.9/6.9	8.9/6.9	0.0	0.0
	7	8.8/6.8	8.8/6.8	0.0	0.0
Newport Boulevard (North) and Del Mar Avenue	10	9.1/7.0	9.1/7.0	0.0	0.0
	10	9.0/6.9	9.0/6.9	0.0	0.0
	11	9.0/6.9	9.0/6.9	0.0	0.0
	7	8.9/6.9	8.9/6.9	0.0	0.0

Source: LSA Associates, Inc., November 2002.

[1] Includes ambient one-hour CO concentration of 7.7 ppm. The State's one-hour CO standard is 20 ppm. CO concentrations at all receptor locations would be the same with or without project.

[2] Includes ambient eight-hour CO concentration of 5.5 ppm. The State's eight-hour CO standard is 9.0 ppm. CO concentrations at all receptor locations would be the same with or without project.

Table 4.2.L: Cumulative Interim Event Conditions Intersection CO Concentrations

Intersection	Distance to Receptor Location from Roadway Centerline (meters)	Interim Event 1-Hr/8-Hr CO Concentration[1] (ppm)	Master Plan Interim Event 1-Hr/8-Hr CO Concentration[2] (ppm)	Increase over Baseline Level 1 hr	8 hr
Harbor Boulevard and Adams Avenue	22	9.5/7.2	10.0/7.5	0.5	0.3
	21	9.5/7.2	9.9/7.5	0.4	0.3
	22	9.4/7.2	9.8/7.4	0.4	0.2
	19	9.3/7.1	9.7/7.3	0.4	0.2
Fairview Road and Fair Drive	15	8.8/6.8	8.9/6.9	0.1	0.1
	15	8.8/6.8	8.9/6.9	0.1	0.1
	15	8.7/6.7	8.7/6.7	0.0	0.0
	17	8.6/6.7	8.7/6.7	0.1	0.0
Fairview Road and I-405 southbound ramps	7	9.1/7.0	9.2/7.0	0.1	0.0
	17	9.1/7.0	9.2/7.0	0.1	0.0
	15	9.1/7.0	9.1/7.0	0.0	0.0
	17	9.1/7.0	9.1/7.0	0.0	0.0
Fairview Road and I-405 northbound ramps	7	9.3/7.1	9.3/7.1	0.0	0.0
	7	9.2/7.0	9.2/7.0	0.0	0.0
	17	9.1/7.0	9.1/7.0	0.0	0.0
	17	9.1/7.0	9.1/7.0	0.0	0.0
Vanguard Way and Fair Drive	12	8.9/6.9	8.9/6.9	0.0	0.0
	15	8.8/6.8	8.8/6.8	0.0	0.0
	8	8.7/6.7	8.7/6.7	0.0	0.0
	14	8.7/6.7	8.7/6.7	0.0	0.0
Newport Boulevard (South) and Fair Drive	7	9.2/7.0	9.6/7.3	0.4	0.3
	15	9.2/7.0	9.6/7.3	0.4	0.3
	14	9.1/7.0	9.4/7.2	0.3	0.2
	7	9.0/6.9	9.3/7.1	0.3	0.2
Newport Boulevard (North) and Del Mar Avenue	10	9.0/6.9	9.0/6.9	0.0	0.0
	10	9.0/6.9	9.0/6.9	0.0	0.0
	10	8.9/6.9	8.9/6.9	0.0	0.0
	11	8.9/6.9	8.9/6.9	0.0	0.0

Source: LSA Associates, Inc., November 2002.

[1] Includes ambient one-hour CO concentration of 7.7 ppm. The State's one-hour CO standard is 20 ppm. CO concentrations at all receptor locations would be the same with or without project.

[2] Includes ambient eight-hour CO concentration of 5.5 ppm. The State's eight-hour CO standard is 9.0 ppm. CO concentrations at all receptor locations would be the same with or without project.

Table 4.2.M: Cumulative Fair Event Conditions Intersection CO Concentrations

Intersection	Distance to Receptor Location from Roadway Centerline (meters)	Fair Event 1-Hr/8-Hr CO Concentration[1] (ppm)	Master Plan Fair Event 1-Hr/8-Hr CO Concentration[2] (ppm)	Increase over Baseline Level 1 hr	8 hr
Harbor Boulevard and Adams Avenue	21	9.5/7.2	9.9/7.5	0.4	0.3
	19	9.4/7.2	9.8/7.4	0.4	0.2
	22	9.4/7.2	9.8/7.4	0.4	0.2
	22	9.4/7.2	9.8/7.4	0.4	0.2
Fairview Road and Fair Drive	15	8.6/6.7	8.6/6.7	0.0	0.0
	15	8.5/6.6	8.6/6.7	0.1	0.1
	15	8.5/6.6	8.5/6.6	0.0	0.0
	17	8.5/6.6	8.5/6.6	0.0	0.0
Fairview Road and I-405 southbound ramps	7	9.2/7.0	9.2/7.0	0.0	0.0
	17	9.1/7.0	9.2/7.0	0.1	0.0
	17	9.1/7.0	9.1/7.0	0.0	0.0
	21	9.1/7.0	9.1/7.0	0.0	0.0
Fairview Road and I-405 northbound ramps	7	9.2/7.0	9.2/7.0	0.0	0.0
	17	9.1/7.0	9.2/7.0	0.1	0.0
	17	9.1/7.0	9.1/7.0	0.0	0.0
	17	9.1/7.0	9.1/7.0	0.0	0.0
Vanguard Way and Fair Drive	12	8.5/6.6	8.5/6.6	0.0	0.0
	8	8.4/6.6	8.5/6.6	0.1	0.0
	15	8.4/6.6	8.4/6.6	0.0	0.0
	15	8.4/6.6	8.4/6.6	0.0	0.0
Newport Boulevard (South) and Fair Drive	15	8.6/6.7	8.6/6.7	0.0	0.0
	14	8.5/6.6	8.5/6.6	0.0	0.0
	7	8.5/6.6	8.5/6.6	0.0	0.0
	7	8.4/6.6	8.4/6.6	0.0	0.0
Newport Boulevard (North) and Del Mar Avenue	10	8.6/6.7	8.6/6.7	0.0	0.0
	10	8.6/6.7	8.6/6.7	0.0	0.0
	10	8.6/6.7	8.6/6.7	0.0	0.0
	11	8.6/6.7	8.6/6.7	0.0	0.0

Source: LSA Associates, Inc., November 2002.

[1] Includes ambient one-hour CO concentration of 7.7 ppm. The State's one-hour CO standard is 20 ppm. CO concentrations at all receptor locations would be the same with or without project.

[2] Includes ambient eight-hour CO concentration of 5.5 ppm. The State's eight-hour CO standard is 9.0 ppm. CO concentrations at all receptor locations would be the same with or without project.

CO and up to 0.3 ppm for the eight-hour CO) and Newport Boulevard (South) and Fair Drive (up to 0.4 ppm for the one-hour CO and up to 0.3 ppm for the eight-hour CO) under the cumulative Interim Event/Master Plan Interim Event; and at the intersection of Harbor Boulevard and Adams Avenue (up to 0.4 ppm for the one-hour CO and up to 0.3 ppm for the eight-hour CO) under the cumulative Fair Event/Master Plan Fair Event. However, they are all below the State and federal standards for the one-hour and eight-hour CO concentrations.

The existing and future cumulative year conditions show that the project area would not have CO hot spots, with or without the project, under several operations scenarios. The proposed project would not have a significant impact on local air quality for CO, and no mitigation measures would be required.

Phasing

Project phasing will not create any short-term or long-term impacts for air quality, nor will it require mitigation measures beyond those specified in the analysis above. There are no air quality improvements required by phase.

4.2.5 SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

The proposed project would have significant unavoidable short-term construction air quality impacts for NO_X and PM_{10} after the implementation of all feasible mitigation measures. The proposed project would also have significant unavoidable long-term operational air quality impacts under the Interim Event with Concert conditions for NO_X, ROC, and CO. There are no feasible mitigation measures to reduce vehicular trip related emissions.

4.3 BIOLOGICAL RESOURCES

This section addresses the existing conditions and potential impacts to terrestrial biological resources, including any wetlands, on and adjacent to the project site.

4.3.1 EXISTING SETTING

Two general site surveys were conducted, in February 2002 and August 2002, primarily to ascertain the presence or absence of sensitive plants and animals or the likelihood of their occurring in the study area based on existing conditions. The purpose of the surveys was to qualitatively evaluate existing habitat conditions.

For the purposes of this analysis, the term "sensitive" refers to those species occurring, or potentially occurring, on the project site and designated as either endangered or rare, as those terms are used by CEQA and its Guidelines, or of current regional or State concern.

Legal protection of sensitive specifies varies widely, from the relatively comprehensive protection afforded species listed as endangered or threatened to no present legal status. The California Department of Fish and Game (CDFG), U.S. Fish and Wildlife Service (USFWS), local agencies, and various special interest groups (e.g,. California Native Plant Society [CNPS]) publish watch lists of declining species. These lists often describe the general nature and perceived severity of the species' decline. In addition, recently published findings and preliminary results of ongoing research provide a basis for consideration of species that are candidates for State and/or federal listing. Finally, species that are clearly not rare or threatened either statewide or regionally, but whose local populations are sparse, rapidly dwindling, or otherwise unstable, may be of "local interest." Table 4.3.A is a list of plant and animal species and their probability of occurring on the project site.

On-Site Environmental Conditions

The OCFEC has experienced substantial landscape disturbance over an extended period of time. When the site was developed for the Santa Ana Army Base (circa World War II), most, if not all, of the on site native plants were removed. The OCFEC is generally comprised of buildings, paved and unpaved parking areas, and ornamental landscaping. Consequently, very little available wildlife habitat or habitat value is found on the site or within adjacent land uses.

Plant Communities and Plant Species. The study area is generally disturbed as a result of its existing developed condition and human activities. Most of the site habitat is composed of nonnative trees and grasses. Introduced and ornamental trees include palm, magnolia, juniper, eucalyptus,

Table 4.3.A: Summary of Potentially Present Sensitive Plant and Animal Species

Species	Habitat and Distribution	Activity/Blooming Period	Status Designation[1]		Probability of Occurrence[2]
SPECIES LISTED OR PROPOSED FOR LISTING					
Salt marsh bird's-beak *Cordylanthus maritimus* ssp. *maritimus*	Coastal Salt Marshes & Coastal Dunes below 100 ft. elev. from San Luis Obispo Co. s. to Baja Calif. Known locally from Anaheim Landing (ca. 1983) & Upper Newport Bay.	May - Oct.	Fed.: State: CNPS:	END END 1B	**Not Expected**. Site lacks suitable conditions (no salt marsh or coastal dunes). Not observed during survey of site.
California gnatcatcher *Polioptila californica californica*	Coastal sage scrub; occurs only in cismontane southern California and northwestern Baja California in low-lying foothills and valleys.	Year round.	Fed.: State:	THR CSC	**Not Expected.** Conditions on site are unsuitable for this species; native habitat is extremely limited, isolated, and highly degraded.
Pacific pocket mouse *Perognathus longimembris pacificus*	Historically occupied open habitats on sandy soils along the coast from Los Angeles to the Mexican border. Now known from only four sites in Orange and San Diego counties.	Mar. - Oct.	Fed.: State:	END CSC	**Not Expected.** Conditions on site are probably unsuitable for this species; native habitat is extremely limited, isolated, and highly degraded.
SPECIES NOT LISTED NOR PROPOSED FOR LISTING					
Southern spikeweed *Centromadia parryi* ssp. *australis*	Coastal Salt Marsh margins, vernally mesic Grasslands, Vernal Pools, often in ruderal, disturbed areas (e.g., drainage ditches, dirt road edges, road ruts, etc.) below 1,400 ft. elev. Coastal So. Calif. from Santa Barbara Co. s. to n. Baja Calif.; possibly Santa Catalina Island.	Jun. - Nov.	Fed.: State: CNPS:	--- SP 1B	**Low**. Although an annual herb, this species, or its persistent remnants, would have been detected during the recent survey of the site if present.
Decumbent goldenbush *Isocoma menziesii* var. *decumbens*	Mosaic of Coastal Scrub & Native Perennial Grassland in primarily clay soils below 1,000 ft. Often in disturbed areas. Coastal plains of San Diego Co., western Riverside Co., & sw. Orange Co. (Laguna Bch.).	Apr. - Nov.	Fed.: State: CNPS:	--- SP 1B	**Not Expected**. Site lacks suitable conditions and is essentially developed. Not observed during survey of site.
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	Coastal Salt Marshes, Alkali Playas, Valley & Foothill Grasslands, and Vernal Pools below 3,000 ft. elev. Inland So. Calif. and along coast from San Luis Obispo Co. to Baja Calif.	Feb. - Jun.	Fed.: State: CNPS:	--- SP 1B	**Not Expected**. Site lacks suitable conditions and is essentially developed. Not observed during survey of site.

Species	Habitat and Distribution	Activity/Blooming Period	Status Designation[1]	Probability of Occurrence[2]
Palmer's grapplinghook *Harpogonella palmeri*	Chaparral, Coastal Scrub, Valley & Foothill Grassland in clay soils on dry slopes & mesas below 1,500 ft. Cismontane s. Calif. from Los Angeles Co. to nw. Baja Calif., incl. Santa Catalina Isl. A population @ Dana Point Headlands.	Mar. - Apr.	Fed.: --- State: SP CNPS: 4	**Not Expected**. Site lacks suitable conditions and is essentially developed. Not observed during survey of site.
Robinson's peppergrass *Lepidium virginicum* var. *robinsonii*	Coastal Sage Scrub and Chaparral with dry soils below 1,700 ft. elev. Los Angeles Co. s. to Baja Calif.; Santa Cruz Island.	Jan. - Apr.(Jul.)	Fed.: --- State: SP CNPS: 1B	**Not Expected**. Site lacks suitable conditions and is essentially developed. Not observed during survey of site.
Aphanisma *Aphanisma blitoides*	Coastal Bluff Scrub, Coastal Dunes, Coastal Sage Scrub below 1,000 ft. An extant pop. approx. 0.5 mile nw.in Laguna Bch. on bluffs above Arch Bch.; another pop. @ Reef Point & Crystal Cove.	Apr. - May	Fed.: --- State: SP CNPS: 1B	**Not Expected**. Site lacks suitable conditions and is essentially developed. Not observed during survey of site.
Coulter's saltbush *Atriplex coulteri*	Alkaline depressions in Coastal Bluff Scrub, Coastal Dunes, Coastal Scrub, Valley & Foothill Grassland; Los Angeles Co. east to w. San Bernardino Co. and south to Baja Calif.	Mar. - Oct.	Fed.: --- State: SP CNPS: 1B	**Not Expected**. Site lacks suitable conditions and is essentially developed. Not observed during survey of site.
Pacific saltbush *Atriplex pacifica*	Primarily along sea bluffs in Coastal Bluff Scrub, Coastal Scrub. Los Angeles Co. south to Baja Calif. (incl. Channel Islands).	Mar. - Oct.	Fed.: --- State: SP CNPS: 1B	**Not Expected**. Presumed extirpated from Orange Co. Site lacks suitable conditions and is essentially developed. Not observed during survey of site.
Davidson's saltbush *Atriplex serenana* var. *davidsonii*	Alkaline flats and coastal bluffs below 660 ft. Coastal Bluff Scrub, Coastal Sage Scrub; Coastal Los Angeles Co. to Laguna Beach, Orange Co.	Apr. - Oct.	Fed.: --- State: SP CNPS: 1B	**Not Expected**. Site lacks suitable conditions and is essentially developed. Not observed during survey of site.
Estuary sea-blite *Suaeda esteroa*	Coastal Salt Marshes (high marsh zone generally). Found coastally from Baja Calif. to Santa Barbara Co.	Jul. - Jan.	Fed.: --- State: SP CNPS: 1B	**Not Expected**. Site lacks suitable conditions and is essentially developed. Very conspicuous, evergreen plant (i.e., suffrutescent perennial) which would have been readily detectable during survey of site.
Woolly sea-blite *Suaeda taxifolia*	Coastal Bluff Scrub, margins of Coastal Salt Marshes from San Luis Obispo Co. to Baja Calif.	Jan. - Dec.	Fed.: --- State: SP CNPS: 4	**Not Expected**. Site lacks suitable conditions and is essentially developed. Very conspicuous, evergreen plant (i.e., suffrutescent perennial) which would have been readily detectable during survey of site.

Species	Habitat and Distribution	Activity/Blooming Period	Status Designation[1]	Probability of Occurrence[2]
Blochman's dudleya *Dudleya blochmaniae* ssp. *blochmaniae*	Open, rocky slopes; often serpentine or clay soils below 1,485 ft. in Coastal Sage Scrub, Coastal Bluff Scrub, Chaparral, Valley & Foothill Grassland. Populations in Dana Point vicinity & in San Clemente off PCH.	Apr. - Jun.	Fed.: --- State: SP CNPS: 1B	**Not Expected**. Site lacks suitable conditions and is essentially developed. Not observed during survey of site.
Many-stemmed dudleya *Dudleya multicaulis*	Often on clay soils and around granitic outcrops in Chaparral, Coastal Sage Scrub, and Grasslands; below 2,500 ft. elev. Los Angeles, Orange, Riverside, San Bernardino, and San Diego Cos.	May - Jul.	Fed.: --- State: SP CNPS: 1B	**Not Expected**. Site lacks suitable conditions and is essentially developed. Not observed during survey of site.
Prostrate navarretia *Navarretia prostrata*	Mesic conditions assoc. w/ Coastal Scrub, Valley & Foothill Grassland (alkaline), and Vernal Pools below 2,300 ft. elev. Los Angeles, Orange, San Diego, & w. Riverside Cos. Monterey and Merced Cos. in No. Calif.	Apr. - Jul.	Fed.: --- State: SP CNPS: 1B	**Not Expected**. Site lacks suitable conditions and is essentially developed. Not observed during survey of site.
Coast woolly heads *Nemacaulis denudata* var. *denudata*	Sandy places such as Coastal Dunes, Coastal Strand (beaches), etc. Below 350 ft. elev. Coastal So. Calif. from Los Angeles Co. s. to n. Baja Calif.; possibly Santa Catalina Island.	Apr. - Sep.	Fed.: --- State: SP CNPS: 1B	**Not Expected**. Site lacks suitable conditions and is essentially developed. Not observed during survey of site.
Small spikerush *Eleocharis parvula*	Coastal Salt Marshes, mesic Salt Flats. Orange Co. to No. Calif.; widespread outside Calif.	Jun. - Sep.	Fed.: --- State: SP CNPS: 4	**Not Expected**. Site lacks suitable conditions and is essentially developed. Not observed during survey of site.
Southwestern spiny rush *Juncus acutus* ssp. *leopoldii*	Coastal Dunes (mesic), Coastal Salt Marsh, Alkaline Seeps & Meadows. Widespread outside Calif. San Luis Obispo Co. to Baja Calif; possibly inland to Arizona.	May - Jun.	Fed.: --- State: SP CNPS: 4	**Not Expected**. Site lacks suitable conditions and is essentially developed. Not observed during survey of site.
Catalina mariposa lily *Calochortus catalinae*	Heavy soil, on open grassy slopes & openings in brush, below 2,000 ft. elev. in Chaparral, Coastal Sage Scrub, Valley & Foothill Grassland. San Diego Co. to San Luis Obispo Co.; Santa Catalina, Santa Cruz & Santa Rosa Islands.	Feb. - May	Fed.: --- State: SP CNPS: 4	**Not Expected**. Site lacks suitable conditions and is essentially developed. Not observed during survey of site.
Intermediate mariposa lily *Calochortus weedii* var. *intermedius*	Dry, rocky, open slopes, often in Chaparral, Coastal Sage Scrub, Valley & Foothill Grassland below 2,000 ft. elev. Los Angeles, Orange, and w. Riverside Cos.	Jun. - Jul.	Fed.: --- State: SP CNPS: 1B	**Not Expected**. Site lacks suitable conditions and is essentially developed. Not observed during survey of site.
Monarch *Danaus plexippus*	Wide variety of habitats, but especially attracted to eucalyptus trees on the wintering grounds in California. Occurs throughout most of North America.	Year round.	Fed.: --- State: SA	**High.** Monarchs are widespread in the area; may use eucalyptus on site.
San Diego horned lizard *Phrynosoma coronatum blainvillei*	Wide variety of habitats including coastal sage scrub, grassland, riparian woodland; typically on or near loose sandy soils; coastal and inland areas from Ventura Co. to Baja Calif.	Apr. - Jul. (with reduced activity Aug. - Oct.)	Fed.: --- State: CSC	**Not Expected.** Conditions on site are probably unsuitable for this species; native habitat is extremely limited, isolated, and highly degraded.

Species	Habitat and Distribution	Activity/Blooming Period	Status Designation[1]		Probability of Occurrence[2]
Orange-throated whiptail *Cnemidophorus hyperythrus beldingi*	Floodplains and terraces with perennial plants and open areas nearby; sea level to 3,000 feet elevation; inland and coastal valleys of Riverside, Orange, and San Diego Cos. to Baja Calif.	Mar. - Jul. (with reduced activity Aug. - Oct.)	Fed.: State:	--- CSC	**Not Expected.** Conditions on site are probably unsuitable for this species; native habitat is extremely limited, isolated, and highly degraded.
Silvery legless lizard *Anniella pulchra pulchra*	Frequents loose soil and humus of relatively open habitats from central California to northern Baja California.	Most of the year.	Fed.: State:	--- CSC	**Not Expected.** Conditions on site are probably unsuitable for this species; native habitat is extremely limited, isolated, and highly degraded.
Red diamond rattlesnake *Crotalis ruber ruber*	Inhabits a wide range of open habitats from the vicinity of San Gorgonio Pass, east of Riverside, south to central Baja California.	Warmer months.	Fed.: State:	--- CSC	**Not Expected.** Conditions on site are unsuitable for this species; native habitat is extremely limited, isolated, and highly degraded.
Cooper's hawk *Accipiter cooperi*	Inhabits a wide range of wooded habitats. Nests across much of North America and winters south to Central America.	Year round.	Fed.: State:	--- CSC	**High.** Migrant and wintering birds are scarce, but widespread and wide-ranging; nesting is possible on site..
Western burrowing owl *Athene cunicularia hypugea*	Open country in western North America.	Year round.	Fed.: State:	--- CSC	**Low.** Now very rare in Orange County, but one was observed on the site more than 5 years ago. Habitat is unsuitable for permanent residency.
Coastal cactus wren *Campylorhynchus brunneicapillus*	The coastal population inhabits cactus scrub from southern Ventura County and southwestern San Bernardino County to northwestern Baja California.	Year round.	Fed.: State:	--- CSC	**Not Expected.** Conditions on site are unsuitable for this species; native habitat is extremely limited, isolated, and highly degraded.
California yellow warbler *Dendroica petechia brewsteri*	Nests in riparian forests on the Pacific slope from western Washington to northwestern Baja California; winters in southern Mexico and Central America.	Apr. - Sept.	Fed.: State:	--- CSC	**High.** Migrants commonly pass through areas such as the project site; habitat is unsuitable for nesting.
Southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	Steep, rocky coastal sage scrub and open chaparral habitats, particularly scrubby areas mixed with grasslands. From Santa Barbara Co. to nw. Baja California.	Year round.	Fed.: State:	--- CSC	**Not Expected.** Conditions on site are unsuitable for this species; native habitat is extremely limited, isolated, and highly degraded.

Species	Habitat and Distribution	Activity/Blooming Period	Status Designation[1]		Probability of Occurrence[2]
California mastiff bat *Eumops perotis californicus*	Known historically from north-central California south to northern Baja California, eastward across the southwestern United States and northwestern Mexico to west Texas and Coahuila. In California, most records are from rocky areas at low elevations where roosting occurs primarily in crevices.	Warmer months.	Fed.: State:	--- CSC	**Low.** No roosting habitat on site. Mastiff bats occur in the San Joaquin Hills, however, and foraging bats disperse for miles, so occasional foraging over the site is possible.
San Diego desert woodrat *Neotoma lepida intermedia*	Frequent poorly vegetated arid lands; especially associated with cactus patches and other thorny vegetation. Found along the Pacific slope from about San Luis Obispo to northwestern Baja California.	Year round.	Fed. State:	--- CSC	**Not Expected.** Conditions on site are probably unsuitable for this species; native habitat is extremely limited, isolated, and highly degraded.
American peregrine falcon *Falco peregrunus anatum*	Widespread, but scarce and local, throughout North America. Frequents urban areas in Irvine and Newport Beach, also more natural areas at Upper Newport Bay and San Joaquin Marsh.	Primarily Fall & Winter	Fed: State:	Delisted END	**Low.** Occasional visits by foraging birds are possible.
Southwestern pond turtle *Clemmys marmorata pallida*	Permanent or nearly permanent water in a wide variety of habitat types; marshes, sloughs, ponds, slow-moving streams; requires basking sites such as partially submerged logs, rocks, or open mud banks. Ranges from the San Francisco Bay area to northwest Baja California.	Year-round with reduced activity Nov. - Mar.	Fed.: State:	--- CSC	**Not Expected.** Conditions on site are probably unsuitable for this species; native habitat is extremely limited, isolated, and highly degraded.
Coastal western whiptail *Cnemidophorus tigris multiscutatus*	Wide variety of habitats including coastal sage scrub, sparse grassland, and riparian woodland; coastal and inland valleys and foothills; Ventura Co. to Baja California.	Apr. - Aug.	Fed.: State:	--- SA	**Not Expected.** Conditions on site are probably unsuitable for this species; native habitat is extremely limited, isolated, and highly degraded.
Coastal rosy boa *Lichanura trivirgata roseofusca*	Inhabits rock outcrops and rocky shrublands from southwestern California to northern Baja California.	Warmer months	Fed.: State:	--- SA	**Not Expected.** Conditions on site are probably unsuitable for this species; native habitat is extremely limited, isolated, and highly degraded.
San Bernardino ringneck snake *Diadophis punctatus modestus*	Under surface objects along drainage courses, in mesic chaparral and oak and walnut woodland communities. Moist habitats of southwestern California from about Ventura to Orange Cos.	Year-round	Fed.: State:	--- SA	**Not Expected.** Conditions on site are probably unsuitable for this species; native habitat is extremely limited, isolated, and highly degraded.
Coast patch-nosed snake *Salvadora hexalepis virgultea*	Coastal chaparral, washes, sandy flats and rocky areas from San Luis Obispo County to northwestern Baja California.	Active diurnally throughout most of the year	Fed.: State:	--- CSC	**Not Expected.** Conditions on site are probably unsuitable for this species; native habitat is extremely limited, isolated, and highly degraded.
White-tailed kite *Elanus leucurus*	Open country in South America and southern North America.	Year-round	Fed.: State:	--- CFP	**Low.** Occasional visits by foraging birds are possible.

Species	Habitat and Distribution	Activity/Blooming Period	Status Designation[1]		Probability of Occurrence[2]
Northern harrier *Circus cyaneus*	Open country in the Temperate Zone worldwide.	Year-round	Fed.: State:	--- CSC	**Low.** Occasional visits by foraging birds are possible.
Merlin *Falco columbarius*	Open country; breeds in the Holarctic and winters south to the Tropics	Fall & winter	Fed.: State:	--- CSC	**Low.** Occasional visits by foraging birds are possible.
California horned lark *Eremophila alpestris actia*	Open grasslands and fields, agricultural areas from northern coastal California to northwestern Baja California.	Year-round	Fed.: State:	--- CSC	**Historically Observed.**
Loggerhead shrike *Lanius ludovicianus*	Open country in much of North America.	Year-round	Fed.: State:	--- CSC	**Historically Observed.**
Tricolored blackbird *Agelaius tricolor*	Open country in western Oregon, California, and northwestern Baja California.	Year-round	Fed.: State:	--- CSC	**Low.** Occasional visits by foraging birds are possible.
Yuma myotis *Myotis yumanensis*	Varied habitats in western North America.	Nocturnal; warmer months	Fed.: State:	--- SA	**Low.** Occasional visits by foraging, or even roosting, animals are possible.

Table 4.3.A: Summary of Potentially Present Sensitive Plant and Animal Species (Continued)

Legend: Status Designation

FEDERAL CLASSIFICATIONS	
END	Federally listed as Endangered.
THR	Federally listed as Threatened.
P END	Federally proposed as Endangered.
P THR	Federally proposed as Threatened.
C	Candidate for federal listing. Taxa for which the U.S. Fish and Wildlife Service (USFWS) has sufficient information available to support a proposal to list as Endangered or Threatened. Issuance of the proposal(s) is anticipated, but precluded at this time.
STATE CLASSIFICATIONS	
END	State listed as Endangered.
THR	State listed as Threatened.
RARE	State listed as Rare.
CFP	California Fully Protected. Taxa legally protected under special legislation enacted prior to the California Endangered Species Act.
C END	State candidate for listing as Endangered.
C THR	State candidate for listing as Threatened.
C RARE	State candidate for listing as Rare.
CSC	California Species of Special Concern. Taxa with populations declining seriously or otherwise highly vulnerable to human developments.
SA	Special Animal. Taxa of concern to the Natural Diversity Data Base regardless of their legal or protection status.
SP	Special Plants. Taxa of concern to the Natural Diversity Data Base regardless of their legal or protection status.
CALIFORNIA NATIVE PLANT SOCIETY (CNPS) CLASSIFICATIONS	
1A	List of plants that are presumed extinct in California.
1B	List of plants that are considered by the California Native Plant Society (CNPS) to be Rare, Threatened, or Endangered in California and elsewhere.
2	List of plants that are considered by CNPS to be Rare, Threatened, or Endangered in California, but more common elsewhere.
3	CNPS review list of plants suggested for consideration as Endangered but about which more information is needed.
4	CNPS watch list of plants of limited distribution, whose status should be monitored.

coral, alder, olive, and pine. The unpaved parking areas have a few isolated patches where vehicles have had only a marginal impact. These areas contain Mediterranean weeds such as Bermuda grass, black mustard, and telegraph weed. The remainder of the parking lots are paved.

With the exception of a small, isolated patch of freshwater (cattail) marsh associated with an artificial catch basin between the equestrian center and Newport Boulevard in the northeast corner of the Fairgrounds, no native habitat or jurisdictional areas (e.g., waters of the U.S. including wetlands, streambeds, and riparian habitat) were observed at the fairgrounds. No sensitive plant species or sensitive natural communities were observed on site, nor are any expected to occur on site. Due to the existing site condition, lack of consolidated plant communities, and predominant development, plant community mapping was not warranted.

Wildlife. Wildlife species using the existing OCFEC are typical of many developed urban areas in Orange County. The faunal component on the site is also limited due to the lack of ground cover and native plant species. Vertebrates that have historically been observed on the site include the pacific tree frog, side-blotched lizard, house finch, house Sparrow, rock dove, horned lark, European starling, mockingbird, American crow, ring-billed gull, western kingbird, Brewer's blackbird, loggerhead shrike, and California ground squirrel. Although a number of other species may be found on the site, such as the house mouse, black rat, and other local species common to such site conditions, none would be considered biologically significant.

Birds are the most conspicuous vertebrates observed on the site during the surveys. The most common species of birds that were observed included the American crow, cedar waxwing, yellow-rumped warbler, and the house sparrow. One immature red-tailed hawk (*Buteo jamaicensis*) and one immature Cooper's hawk (*Accipiter cooperii*) were observed in the February 2002 survey, but no evidence was found to indicate that these species, or any other raptor species, are currently nesting at the site or in any of the other larger trees in the vicinity. Table 4.3.B provides a complete list of bird species observed on the project site in February 2002.

The only active bird nest that was found during the February 2002 survey was tended by a female Anna's hummingbird (*Calypte anna*). The nest was in a pine tree near the top of the berm north of the amphitheater stage. Three large, inactive nests in trees north of the amphitheater appeared to have been made by American crows (*Corvus brachyrhynchos*) in previous seasons. A few bird species may use the eucalyptus trees along Arlington Drive as roosting sites.

Most sensitive species known from the region would not be expected or would have a low probability of occurrence on the site due to the existing conditions and proximity to human activities. Based on review of agency databases identifying rare, endangered, or sensitive animal species on the proposed

Table 4.3.B: Bird Species Observed on the Project Site, February 2002

Species	Number Observed
Cooper's hawk (*Accipiter cooperii*)	1
Red-tailed hawk (*Buteo jamaicensis*)	1
California gull (*Larus californicus*)	10
Western gull (*Larus occidentalis*)	1
Rock dove (feral pigeon) (*Columba livia*)	1
Anna's hummingbird (*Calypte anna*)	3
Rufous/Allen's hummingbird (*Selasphorus rufus/sasin*)	2
Black phoebe (*Sayornis nigricans*)	3
American crow (*Corvus brachyrhynchos*)	20
Oak titmouse (*Baeolophus inornatus*)	1
Bushtit (*Psaltriparus minimus*)	10
Cedar waxwing (*Bombycilla cedrorum*)	20
Orange-crowned warbler (*Vermivora celata*)	2
Yellow-rumped warbler (*Dendroica coronata*)	20
Townsend's warbler (*Dendroica townsendi*)	1
White-crowned sparrow (*Zonotrichia leucophrys*)	4
Dark-eyed junco (*Junco hyemalis*)	2
House finch (*Carpodacus mexicanus*)	5
Lesser goldfinch (*Carduelis psaltria*)	6
American goldfinch (*Carduelis tristis*)	2
House sparrow (*Passer domesticus*)	15

project area,[1] and on visual observations of the site, sensitive species (Cooper's hawk, shrike, lark) were found to exist on the Fairgrounds.

4.3.2 THRESHOLDS OF SIGNIFICANCE

The threshold for determining the significance of impacts to biological resources is determined by scientific judgment, and considers the relative importance of the habitat and/or species affected by project implementation. For the purposes of this analysis, the project's effects on biological resources are considered significant if they would:

3-A Substantially affect a rare, threatened, endangered or candidate plant or animal species, or the habitat of any such species;

3-B Substantially diminish or degrade habitats (including wetlands) or native fish, wildlife, or plants;

3-C Interfere substantially with the movement of any resident or migratory fish or wildlife species;

3-D Conflict with adopted environmental plans, goals, and policies relative to biotic resources of the community where it is located; or

3-E Result in notable net loss of a biotic community that is subject to local State, and/or federal regulation (e.g., riparian communities) or that is otherwise of very limited occurrence in the subregion.

4.3.3 PROJECT DESIGN FEATURES

The proposed Master Plan includes design guidelines for landscape/plant material for the OCFEC complex. Landscape components will feature an eclectic mix of native and ornamental plant materials including orange trees, palm trees, and eucalyptus trees.

The Master Plan also calls for the establishment of a large passive park in the western portion of the core of facilities where the tree covered berm currently exists. The Park will be characterized by an open landscape area with shade trees that will replace those presently covering the berm.

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[1] California Department of Fish and Game Natural Diversity Database: Newport Beach, Laguna Beach, and Tustin Quads, May 31, 2001; California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California: Newport Beach, Tustin, and Laguna Beach Quads, May 31, 2001.

4.3.4 IMPACTS AND MITIGATION MEASURES

The habitat quality associated with the proposed project site is low, based on the disturbed conditions, location within an urban setting, and the predominance of nonnative, ornamental plants. The probability of occurrence is low or nonexistent for most of the species listed in Table 4.3.A. For those species that were determined to have a moderate or high potential for using the site or for those species that were observed or have historically been observed on the project site, development of the proposed project is unlikely to be a substantial deterrent. These species will continue to use the eucalyptus trees along Arlington Drive for roosting and/or other vegetation that will be planted on site as part of the Master Plan Landscaping guidelines.

The proposed project will not affect any listed or candidate plants or animals nor will any suitable habitat for these species be substantially affected (Criteria 3-A and 3-B). In addition, the project site is in an urban setting and is already developed as a fairgrounds facility completely isolated from any wildlife corridor. As such, the proposed project will not result in any additional interference to migratory species than already exists (Criterion 3-C).

The proposed project does not conflict with any adopted environmental plans, goals, or policies, nor will it result in notable net loss of a biotic community that is subject to local, State, and/or federal regulation (Criteria 3-D and 3-E).

The proposed project would not cause any significant effects on terrestrial biological resources either on the project site or on the cumulative biological community.

Phasing

Project phasing will not create any short- or long-term impacts for biological resources and will not trigger the need for mitigation. Those species that were observed or have been historically observed on the project site will continue to use portions of the project site not under construction or the eucalyptus trees along Arlington Drive. There are no biological resource improvements required by phase.

4.3.5 SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

The proposed project will not cause any significant impacts to biological resources; therefore, no significant unavoidable adverse impacts will result.

4.4 CULTURAL RESOURCES

This section is based on a field survey conducted by LSA Associates, Inc., Cultural Resources Division, in September 2002, evaluation of relevant literature and records, and review of historical photographs of the project site.

4.4.1 EXISTING SETTING

The description of an overall regional chronology demarking the major stages of cultural evolution in the Southern California area has been attempted many times. Two principal chronologies, Wallace (1955, 1978) and Warren (1968) have been revised slightly for Orange County (Koerper 1981; Koerper and Drover 1983). However, because Southern California cultural developments occur gradually and have long-term stability, specifically applying a chronology is difficult. For this reason, many paleontologists and archaeologists find it more appropriate to use radiocarbon dating to establish general chronologies for the area.

Since the 1950s, radiocarbon dating has become one of the most important analytical tools that archaeologists use to determine the age of artifacts. Radiocarbon dating provides an age estimate based on the amount of a natural radioactive carbon isotope (carbon-14) that remains in any organic matter. Age estimates derived from this method are given as radiocarbon years before present (RYBP).

Prehistoric Setting

The First Settlement (ca. 12,000 to 10,000 RYBP). The first settlement in Southern California occurred at the very end of the Pleistocene. The Channel Islands were among the first locations to be occupied. Early settlements from San Miguel and Santa Rosa Islands, for example, date before 10,000 years ago. The location of these sites indicates that the early inhabitants of the region had seaworthy boats, although the extent to which they depended on marine resources is not clear.

Early Holocene (10,000 to 6,650 RYBP). During the Early Holocene, settlement on the mainland was much more common. Artifacts from this period have seldom been identified in Orange County; however, radiocarbon data suggest that two sites in the Upper Newport Bay region, ORA-195 and ORA-64, have period components, including shellfish from Newport Bay. Early Holocene sites can also be found in the San Joaquin Hills, including ORA-246, ORA-339, and ORA-386.

Middle Holocene (6,650 to 3,350 RYBP). During the Middle Holocene, settlement focused on the upper end of Newport Bay as stabilization of sea levels promoted the development of large shellfish populations. The local human populations grew increasingly sedentary, although they moved in

small family groups onto the marine terraces southeast of the bay during the summer to fish, collect mussels, and gather seeds. The economy was supported by intensive hunting of small mammals, large mammals, sea mammals, and birds; shellfish collecting; and near-shore fishing with bipointed bone pieces known as barbs or gorges (Reinman 1964). It was during this period that mortars and pestles, used to process acorns, became more common. Flaked tools and faunal remains also became more diversified.

Late Holocene (3,350 to 0 RYBP). A decrease in settlement density occurred around the Newport Bay and along the Newport Coast between 3,500 and 1,350 years ago. About this same time, coastal populations around Huntington Beach and Bolsa Chica Mesas grew, which suggests a growing reliance on marine resources. A number of sites dating to this time period have been found at Crystal Cove State Park, located in the coastal drainage of the San Joaquin Hills. This indicates that sites ORA-130, ORA-280, ORA-281, ORA-323, and ORA-327 were all occupied, at least in part, during the period 2,774–485 BC (4,792–2,440 BP). It also suggests that prehistoric sites located along the coastal San Joaquin Hills may have been used to a greater degree during the Late Holocene than were sites in other areas of Orange County, including the more intensively studied Newport Bay area. Settlement did eventually return to the Newport Bay area, and populations grew quite large.

Significant advances in tool technology, ceremonial practices, and other cultural patterns mark the Late Period. Tools found at Orange County sites indicate that trading occurred between other native groups from outside the region. This period ended abruptly when missions were established along the California Coast by Spanish soldiers and Franciscan friars.

Historic Setting

The current City limits of Costa Mesa actually encompass three early Orange County boomtowns: Fairview, Paularino, and Harper. The Orange County Fairgrounds are situated over most of the historic site of Paularino. The name Paularino is derived from the first adobe built within the area, Polloreno (or the Banning Adobe). Built in the early 1800s, this building was destroyed in about 1906. Eduardo Polloreno (Poyoreno) bought the land from Rafael Peralta in 1868 and sold it to Gabriel Allen in 1870. Allen sold a portion (1,006 acres) to Henry Berry in 1875, and the community of Paularino was founded. The first settlers in Paularino came from Boston, Massachusetts in 1886, giving the area the nickname "Boston Colony."

Orange County was formally organized as a political entity separate from the County of Los Angeles in 1889. With a year-round harvest of oranges, lemons, avocados, and walnuts, agriculture was the most important industry in the area. Around 1890, the first agricultural Fair in Orange County was held. Much of the initial interests in the Fair stemmed from a growing rivalry between Orange County farmers and Los Angeles farmers who used the Fair to showcase prize livestock and exhibit bountiful crops. Fair popularity reached a peak in 1892 when a race was held between two horses, Silkwood, a horse bred in Orange County, and McKinney, a Los Angeles racehorse. Silkwood won that race and many others, and the Fairgrounds continued to grow. In 1895, Silkwood lost his first race, and interest in the Fair waned. When the Fair reopened in 1897, it included events, exhibits, a barbecue, and the first Ladies' Day.

Figure 4.4.1: Historic Aerial Photograph of the Santa Ana Army Air Base, 1947.

During World War I, the Fair was suspended; however, it continued as the Harvest Home Festival in Huntington Beach. In 1920, the Fair returned to Santa Ana. Five years later, the local Farm Bureau established an Orange County Fair Board. The Fair Board purchased a 13-acre site near the Orange County Hospital, and the Fair continued there until the Depression halted the event. In 1937, the Fair resumed and continued until World War II broke out.[1]

Farming continued to be the predominate industry in the area until WWII, when the War Department subleased a large section of land in the Paularino area for one dollar per year from the County. The groundbreaking ceremony for the United States Air Corps Replacement Training Center was held October 23, 1941. The first aviation cadets arrived February 25, 1942. On April 7, 1942, the base was renamed the Santa Ana Army Air Base (SAAAB) and contained three schools: the Air Force Classification Center, the Air Force Preflight School (pilots), and the Air Force Preflight School for bombardiers and navigators. Figure 4.4.1 is an aerial photograph of the SAAB taken in 1947.[2] The United States government eventually took the land occupied by the base and added to it by condemnation until the base occupied 1,283 acres.[3] In April 1943, the Student Officers' School was started, and in September of that year, a Chinese School was founded to train members of the Chinese Air Force under a lend-lease arrangement with the Republic of China. In September 1943, the objective of the base was amended to include the training of enlisted men.

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1 Kilroy, Michael. "The Origins of a Good Ol' County Fair." *Team MacPherson's Orange County Scene; A Look at Orange County's Colorful Past.* Inkworks: Berkeley, California. 1997.

2 Current OCFEC location outlined in yellow. Source: Fairchild Aerial Photography Collection, Whittier College.

3 Miller, Edrick. *A Slice of Orange; The History of Costa Mesa.* Hendricks Printing Co: Irvine, California, 1970.

By the end of WWII in 1945, 220,000 servicemen had been processed through the SAAAB. With the appearance of a small city, the base had rail and electric lines for mass transit and approximately 800 buildings, including 1,357,120 square feet of barracks, 28 convalescent hospital wards, 18 school buildings, 155,000 square feet of administration buildings, 4 chapels, and 4 theaters. In late 1945, the base also held 563 German prisoners of war. After WWII, the SAAAB served as a redistribution center for returning servicemen until the base was decommissioned on March 31, 1946.

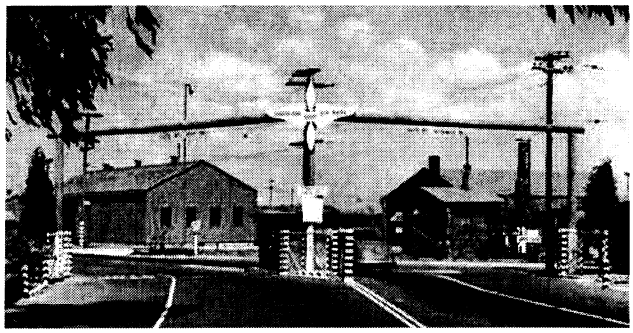

Figure 4.4.2: Main Entrance to the SAAAB off Newport Boulevard.

As part of its commitment to the Servicemen's Readjustment Act of 1944 (i.e., the GI Bill) the War Assets Administration sold 243 acres of the land occupied by the SAAAB to the Orange Coast Junior College District (OCC) in August 1946 for one dollar. Around the same time, the California Department of Agriculture formed the 32nd District Agricultural Association and gave it responsibility for organizing the Orange County Fair. The State then purchased 175 acres from the Department of Defense and settled the Orange County Fair and Exposition Center (OCFEC) on the site.

By 1949, the Orange County Fair was established on its present site, using the abandoned buildings from the SAAAB. The first Fair on this site drew approximately 40,000 people. There are several remaining buildings within the existing Fairgrounds complex that were originally components of the base; however, all of them have been substantially altered and/or relocated. Oral histories of some of the buildings report that they were originally two-story barracks that had their lower story removed. A comparison of historic aerial photographs from the active period of use of the SAAAB with current use patterns for the OCFEC reveal that none of the buildings appear to be in their original location. There are several plaques commemorating the construction of the Army Air Base and those who were trained or served there. These plaques are located near the east entry of the Memorial Gardens building.

The City of Costa Mesa annexed the land occupied by the OCFEC and OCC on June 3, 1955.

Records Search and Field Survey

A records search through the South Central Coastal Information Center of the California Historical Resource Information System was conducted for the Fairgrounds property. There are no known archaeological or historic resource sites within the study area. A field survey of the exposed ground surfaces and existing buildings was conducted in September 2002 to identify historic properties as defined by CEQA. No cultural resources were identified during these activities.

4.4.2 THRESHOLDS OF SIGNIFICANCE

4-A A project may have a significant effect on the environment if it may cause a substantial adverse change in the significance of a historical resource. A historic resource can include an object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. Generally, a historic resource shall be considered significant if the resource meets the criteria for listing on the California Register of Historic Resources (Public Resource Code Section 5024.1, Title 14 CCR, Section 4852) including the following:

1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage

2) Is associated with the lives or persons important to our past

3) Embodied the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values

4) Has yielded, or may be likely to yield, information important to prehistory or history

4-B A project may have a significant effect on the environment if it may cause a substantial adverse change in the significance of a unique archaeological resource. A "unique archaeological resource" means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is high probability that it meets any of the following criteria:

1) Contains information needed to answer important scientific research questions, and there is a demonstrated public interest in that information

2) Has a special or particular quality such as being the oldest of its type or best available example of its type

3) Is directly associated with a scientifically recognized important prehistoric or historic event or person

4.4.3 PROJECT DESIGN FEATURES

There are no project design features that relate to cultural resources.

4.4.4 IMPACTS AND MITIGATION MEASURES

As mentioned above, a records search through the South Central Coastal Information Center of the California Historical Resource Information System was conducted for the Fairgrounds property and

yielded no information on previously recorded archaeological or historic resource sites within the study area.

While the vicinity of the Fairgrounds was undoubtedly inhabited during the prehistoric period, the land occupied by the OCFEC does not contain any physiographic features such as stream courses or knolls that would have attracted Native American settlement to the study area. Therefore, it is unlikely that Native American habitation sites would have been located on the study area. Due to the high level of disturbance through agricultural, military, and Fair use of the project area, it is unlikely that any significant archaeological resources will be identified.

Based on expert opinion provided by Steven Conkling, Director of Cultural and Paleontological Resources, LSA Associates, Inc., it has been concluded that while several buildings on the Fairgrounds date from the historic Santa Ana Army Air Base, none of the buildings retain their integrity or ability to convey historical significance. Comparison of the existing building locations to aerial photographs taken during operation of the SAAAB indicate that none of the buildings are in their original location. Field surveys establish thatall the buildings have been substantially altered from their original design. Buildings of this type and period are relatively common on military bases, including at the Los Alamitos Naval Air Station and Camp Pendleton. Therefore, these buildings have not retained their historic integrity and do not represent unique examples of their type.

Although the likelihood of encountering archaeological or paleontological resources or human remains is low as determined through the field survey and records and archival research, the possibility remains that buried resources may be encountered during construction activities.

In the event that unanticipated cultural resources are encountered, ground disturbing activities in the vicinity of the discovery shall be diverted until a qualified cultural resource specialist can evaluate the discovery, in compliance with the precautionary mitigation measures provided below. The archaeologist/paleontologist will develop recommendations for the treatment of the discovery and the project proponent will be responsible for conducting the treatment consistent with the recommendations of the specialist. Impacts to cultural resources are therefore reduced to below a level of significance.\

Mitigation Measure 4-1 Prior to issuance of the Notice to Proceed, the California Construction Authority shall verify that a County of Orange certified paleontologist has been retained to observe grading activities and salvage and catalogue fossils as necessary. The paleontologist shall be present at the pregrading conference, shall establish procedures for paleontological resource surveillance, and shall establish, in cooperation with the OCFEC and the California Construction Authority, procedures for temporarily halting or redirecting work to permit sampling, identification, and evaluation of the fossils. If major paleontological resources are discovered, the paleontologist shall determine appropriate actions, in cooperation with the project developer, to ensure proper exploration and/or salvage. Excavated finds shall be offered to the County of Orange, or its designee, on a first refusal basis. If any paleontological resources are found, the

paleontologist shall submit a follow-up report which shall include the period of inspection, a catalogue and analysis of the fossils found, and present repository of the fossils to the Orange County Natural History Museum.

Mitigation Measure 4-2 Prior to issuance of the Notice to Proceed, the California Construction Authority shall verify that a County of Orange certified archaeologist has been retained, shall be present at the pregrading conference, shall establish procedures for archaeological resource surveillance, and shall establish, in cooperation with the OCFEC and the California Construction Authority, procedures for temporarily halting or redirecting work to permit sampling, identification, and evaluation of the artifacts as appropriate. If the archaeological resources are found to be significant, the archaeological observer shall determine appropriate actions, in cooperation with the OCFEC and the California Construction Authority, for exploration and/or salvage. The archaeologist shall submit a follow-up report to the Orange County Natural History Museum which shall include the period of inspection, a catalogue and analysis of any artifacts found, and present repository of the artifacts. Excavated finds shall be offered to the County of Orange, or designee, on a first refusal basis.

Mitigation Measure 4-3 If human remains are encountered during the course of construction, project-related activities in the immediate vicinity of the find will be temporarily diverted. The County Coroner will be contacted within 24 hours. The County Corner will determine whether the remains are recent. If the remains are determined to be Native American in origin, the Native American Heritage Commission will be contacted immediately to determine the most likely descendant (MLD). The MLD will have the opportunity to become involved with the final disposition of the remains following scientific analysis.

Phasing

Project phasing will not create any short-term or long-term impacts for cultural resources, nor will it require mitigation measures beyond those specified in the analysis above. There are no cultural resource improvements required by phase.

4.4.5 SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

With the implementation of Mitigation Measures 4-1 through 4-3, all potential impacts to cultural resources are reduced to less than significant levels.

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4.5 EARTH RESOURCES/TOPOGRAPHY

Information in this section regarding soil and geophysical conditions of the project site and feasibility for development of the proposed project is from "Geotechnical Study for the Pacific Amphitheater Berm, Orange County Fairgrounds, Costa Mesa, California," Pacific Soils Engineering, Inc., June 27, 2002, and previous geotechnical reports contained in the "Environmental Impact Report for the 1990 Orange County Fairgrounds Master Plan," P&D Consultants, 1990. Appendix C contains the Geotechnical Study conducted by Pacific Soils.

4.5.1 EXISTING SETTING

The OCFEC is located near the southern edge of the Los Angeles Basin Geomorphic Province, at an elevation of about 60 to 70 feet above mean sea level. The project site is currently developed as a Fairgrounds facility. The topography of the site is relatively flat, with a gradual, gentle, northeasterly slope (USGS 1981). The OCFEC site has been extensively graded and developed, with virtually no natural topography remaining. The existing geological conditions of the OCFEC site are categorized in terms of bedrock and soils, seismicity, and groundwater.

Geologic Units

Site Earth materials have been classified as "recent" alluvial deposits. Recent alluvium consists of unconsolidated and poorly consolidated gravel, sand, and silt material that is being, or has been, transported by streams. Beneath the alluvial surface lie the following strata:

- Undivided Strata—Marine and nonmarine terrace deposits of the Pleistocene epoch (10,000 to 2.5 million years ago [mya]), composed of siltstone and sandstone.
- Pico Formation—Marine siltstone and sandstone deposits of the Pliocene epoch (2.5 to 7 mya). The Pico Formation is also characterized by one or more unconformities, or breaks, in the stratigraphic sequence.
- Repetto Formation—Marine deposits of fine-grained to coarse-grained silty sandstone and platy siltstone and shale from the Upper Miocene epoch.
- Topanga Formation—Marine deposits of clastic sedimentary rocks, intrusive and extrusive igneous rocks, and blue schist breccia, believed to be San Onofre breccia. The Topanga Formation is composted of granitoid plutonic rocks of the Southern California batholith, formed at great depths in the Earth's crust. These plutonic rocks primarily include quartz diorite, granodiorite, and quartz monzonite of Jurassic age (136 to 190 mya) to early Late Cretaceous age (120 to 136 mya).

Soils

Soils on the OCFEC Site are characteristic of those found in the Southern California Coastal Plain. The Soil Conservation Service of the U.S. Department of Agriculture has classified the soils in the project area into two types: Myford sandy loam and Cropley clay.

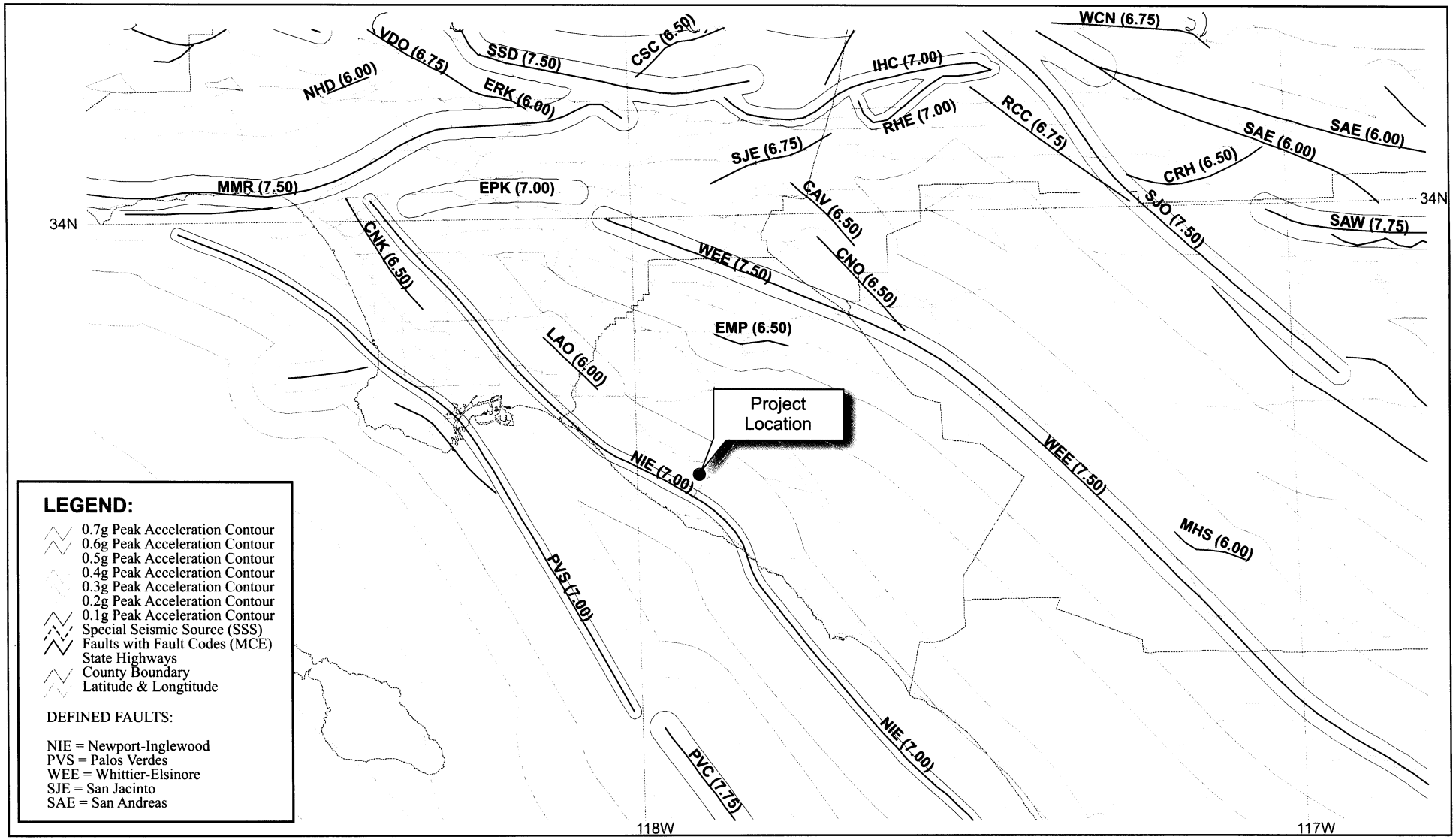
- Myford sandy loam, found in the 30 acre southeastern section of the OCFEC, has an effective depth of 12 to 19 inches. Surface texture is fine sandy loam; the subsoil is sandy clay. The available water-holding capacity of this soil is 2.5 to 3.5 inches, and the average slope on this portion of the site is less than five percent. This soil has a medium runoff rating, a low subsoil permeability (0.5 inch per hour or less), low shrink/swell potential, moderate erosion status, and, due to its alkalinity, high corrosivity to uncoated steel.
- Cropley clay is found on the remainder of the OCFEC site to an effective depth of greater than 60 inches. Its surface soil and subsoil are both fine-textured clay. Cropley clay has a low rate of permeability (0.2 inch per hour or less) and a very high shrink/swell potential. This soil has an available water-holding capacity of 7.5 to 10.0 inches, a low erosion status, and an average slope of less than five percent. This soil has a slightly alkaline pH (6.6 to 8.4) and is corrosive to uncoated steel.

Berm Fill

Soil borings of the amphitheater berm were taken by the geotechnical engineering firm Pacific Soils Engineers, Inc. (PSE). Fill materials were encountered to depths of about 45 feet in all the borings. The fill consists of sandy and silty clays, clayey silts and sands, and some poorly graded sands. The fill materials were generally dry at the surface and damp to moist below. Below the upper disturbed and weathered soils, the fill soils were firm to stiff and medium dense. Native soils were encountered at depths varying from 45 to 46.5 feet and consist of damp to moist and stiff clays and clayey silts. Groundwater was not encountered to the maximum depth explored of 50 feet (PSE 2002).

4.5.2 SEISMIC CONSIDERATIONS

The OCFEC site is in a seismically active area. Consequently, numerous earthquakes have shaken the area during California's recorded history. Earthquake events in California have been recorded for only slightly over 200 years. Within this period, several major earthquakes have occurred that could have affected the site, including the Long Beach earthquake (1933), the Wheeler Ridge earthquake (1952), and the San Fernando earthquake (1971). More recently, the Whittier earthquake occurred in October 1987; the Huntington Beach earthquake, with an epicenter in Newport Beach, occurred in April 1989; and the Northridge earthquake occurred in January 1994. The Whittier earthquake had a magnitude of 6.1 on the Richter scale, the Huntington Beach earthquake had a magnitude of 4.6, and the Northridge earthquake had a magnitude of 6.7. All three earthquakes were felt strongly in Orange County and the Southern California region. Figure 4.5.1 shows the map of the known active faults in the area.



LSA

FIGURE 4.5.1

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0 25

MILES

SOURCE: "California Seismic Hazard Map 1996", Revision 1, Caltrans

Orange County Fair and Exposition Center

Regional Fault Map

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Regional Faults

The potential for severe damage and loss of life resulting from earthquake activity exists at the site, as it does throughout much of Southern California. Seismic hazards can result from ground shaking from seismic events generated on any of the regional active faults shown on Figure 4.5.1. The six major fault zones in the region considered to be active are the San Andreas, the San Jacinto, the Sierra Madre/Cucamonga, the San Fernando system, the Whittier-Elsinore system, and the Newport-Inglewood. These faults are all capable of generating earthquakes of up to 7.0 in magnitude.

The Newport-Inglewood Fault does not run under the OCFEC site; however, of the five regional faults, it is the closest to the site, situated near the Newport Beach coastline that is approximately three miles southwest of the site. The Newport-Inglewood Fault zone is a series of northwest trending, vertically dipping faults extending from the southern edge of the Santa Monica Mountains southeastward to the offshore area near Newport Beach. From north to south, the fault segments are Charnock Fault, Overland Avenue Fault, Inglewood Fault, Portero Fault, Avalon-Compton Fault, Cherry Hill Fault, and Seal Beach Fault. The local and regional faults within the Newport-Inglewood Fault zone most prone to shaking within the site area and their potential Richter magnitudes are summarized in Table 4.5.A.

Seismic Hazards

Primary Seismic Hazards. The primary seismic hazards associated with earthquakes are seismic shaking and ground rupture. In the Costa Mesa area, the primary seismic threat is surface rupture of earth materials along fault traces and damage to structures and foundations due to seismically induced ground shaking. The most damaging event related to faulting is seismic shaking. Seismic shaking is characterized by the physical movement of land surface subsequent to an earthquake. Seismic shaking has the potential to cause fires by damaging or destroying gas or electrical utility lines, disrupt surface drainage, block surface seepage and groundwater flow, change groundwater flow, dislocate street alignments, displace drainage channels and drains, destroy or damage buildings and property, and possibly cause the loss of life. Seismic shaking can also renew movement of old landslides and result in the formation of new slides.

The intensity of seismic shaking during an earthquake depends largely on geologic foundation conditions of the materials comprising the upper several hundred feet of the Earth's surface. The greatest amplitudes and longest durations of ground shaking occur on thick, water saturated, unconsolidated alluvial sediments that often lead to liquefaction (further described below). Ground shaking can also cause ground failure or surface rupturing due to lurching and liquefaction.

Ground rupture, such as seismic fissures, refers to the displacement of the ground along a fault, which can occur during strong earthquakes. In addition to primary hazards, ground shaking can induce several kinds of secondary seismic hazards, including liquefaction, differential settlement, landslides, or seiching, all of which are described below.

Table 4.5.A: Regional Active Faults Seismic Parameters

				Maximum Probable Earthquake (Standard Design)		
Known Active Fault Zone	**Nearest Fault-to-Sites Distance (Miles)**	**Maximum Magnitude of Historic Earthquake**	**Maximum Credible Earthquake Magnitude**	**Magnitude**	**Peak Horizontal Ground Acceleration (g)**	**Duration of Strong Shaking (Seconds)**
San Andreas	50	7.9 (1857) 6.0 (1948)	8.5	8.1	0.07	16
San Jacinto	42	7.1 (1940) 6.5 (1968)	7.5	7.0	0.04	10
Whittier-Elsinore System	15	5.5 (1938) 6.0+ (1910)	7.0	6.7	0.10	20
Palos Verdes	10	None known	7.0	7.0	0.31	16
Newport-Inglewood	6	6.2 (1933) 4.6 (1989)	7.0	6.7	0.43	22

Source: Zeiser Geotechnical, Inc. 1991; Leighton and Associates 1989.

The intensity of ground shaking at a given site depends primarily upon the earthquake's magnitude, the distance from the earthquake's origin, and the underlying rock and soil characteristics. The Newport-Inglewood Fault zone is potentially capable of producing a maximum probable earthquake magnitude of 6.9, with a peak horizontal ground acceleration estimate at 0.52g (Leighton and Associates 1993). Events along the Newport-Inglewood Fault zone and from other regional causative faults could be expected to produce peak horizontal ground accelerations ranging from 0.04g to 0.31g.

Other major active and potentially active faults that could produce significant ground shaking at the site include the San Andreas, Whittier-Elsinore, Palos Verdes, and Seal Beach faults.

Secondary Seismic Hazards

Liquefaction. Liquefaction occurs when ground shaking and high groundwater cause loose, sandy soil to behave like quicksand rather than a solid material. Subsequently, these soils cannot support weight, which can result in the collapse or displacement of building foundations. Due to the absence of a shallow water table (i.e., groundwater depth is more than 20 feet below the surface) and the moderately high density of soil materials beneath the site, the risk of liquefaction is considered negligible as it relates to the OCFEC.

Differential Settlement. The extremely thick alluvial deposits that underlie the area are subject to differential settlement during intense shaking associated with seismic events. This type of seismic hazard results in damage to property when an area settles to different degrees over a relatively short distance. The actual potential for settlement is, however, difficult to predict.

Because of the geographic location and relatively flat topography of the OCFEC site, the following events are not considered to be significant geotechnical constraints to plan implementation:

- *Landslides/Slope Instability*. The downslope movement of loose rock or fill material during strong ground shaking is the most likely slope hazard.
- *Seiching*. This phenomenon occurs when seismic ground shaking induces standing waves (seiches) inside water retention facilities such as reservoirs and water tanks. These waves can cause retention structures to fail and flood downstream properties.
- *Mudslides and Erosion*. Mudslides and slumps are described as a shallower type of slope failure, usually affecting the upper soil mantle or weathered bedrock underlying natural slopes and triggered by surface or shallow subsurface saturation. Characteristics related to mudslide (mudflow) risks are 1) depth and type of soil; 2) direction and angle of slope; 3) surface drainage configuration; and 4) type and condition of natural ground cover.
- Erosion typically occurs from concentrated runoff or unprotected slopes or along unlined channels that are underlain by relatively erosion-prone earth materials (e.g., topsoil, soft alluvium, uncemented sandstone). These conditions may occur within the project area.

- *Settlement*. The sinking, or settlement, of a structure, fill prism, or other imposed load is usually the result of compaction or consolidation of the underlying soil. Commonly, such soils can be found in alluvial valley areas and where old pits or gullies have been filled with trash and loose soil.
- *Subsidence*. The phenomenon of widespread land sinking, or subsidence, is generally related to substantial overpumping of groundwater or petroleum reserves from deep underground reservoirs. Subsidence is not related to any surface activity.
- *Tsunamis, Seiches, and Flooding from Dam or Levee Failure*. Tsunamis are sea waves induced by earthquakes or, less frequently, by very large submarine landslides. Seiches are standing wave oscillations that can develop in lakes, reservoirs, or other confined bodies of water during seismic ground shaking. The OCFEC site is far enough inland that it would not be affected by a tsunami, and no confined bodies of water are present on, or in close proximity to, the site. The pond at TeWinkle Park would not be a threat because it is located in a low part of the area, and upon any significant seiche, the water would flow away from the Fairgrounds site. No dams or levees are located on or in close proximity to the site.

4.5.3 THRESHOLDS OF SIGNIFICANCE

Earth resources and/or topographic impacts resulting from the proposed project could be considered significant if they cause any of the following impacts:

5-A Exposure of people or property to geological hazards such as landslides, mudslides, ground failure, or similar hazards; soil and/or seismic conditions so unfavorable that they could not be overcome by design using reasonable construction and/or maintenance practices

5-B Triggering or acceleration of geologic processes such as landslides or erosion that could result in slope failure

5-C Rendering of soil incompetent for use as a foundation

5-D Modification of the surface soils or present erosion protection devices such that abnormal amounts of wind or waterborne soils are removed from the site

5-E Earthquake induced ground shaking capable of causing ground rupture, liquefaction, settlement, or surface cracks resulting in the substantial loss of use

5-F Location of the site within an Alquist-Priolo Earthquake Fault Zone, or within a known active fault zone, or an area characterized by surface rupture that might be related to a fault

5-G Deformation of foundations by expansive soils (those characterized by shrink/swell potential)

5-H Modification or elimination of significant natural landform features

4.5.4 PROJECT DESIGN FEATURES

PDF 5-1 **Zone 4 Criteria.** The proposed project will be designed and constructed in accordance with applicable portions of Zone 4 criteria from the current Uniform Building Code (UBC), the Uniform Fire Code, the County of Orange Grading Manual, and other applicable federal and State codes. Adherence will minimize, to the extent feasible, any damage or injury caused by seismic ground shaking. This project design feature will be verified by the California Construction Authority during plan check and prior to issuance of the Notice to Proceed.

4.5.5 IMPACTS AND MITIGATION MEASURES

The level of geotechnical and landform information contained herein is adequate to analyze the potential project effects on Earth resources and landform and to determine appropriate mitigation measures.

Landform Modifications

Project site construction will require grading and earthmoving to prepare the site for redevelopment. Earthwork will require topographical modifications, including the removal of a large earthen berm. It should be noted that this berm was created for a seating area less than ten years ago. Approximately 200,000 cubic yards of material will be removed in conjunction with demolition activities. Minor earthmoving activities will also be needed to implement construction projects called for in the Master Plan. There are no unique geologic features on or adjacent to the project site that would be significantly reduced or eliminated by the proposed development. The grading and earthmoving required for implementation of the proposed project will alter only previous modified land; therefore, the effects of the proposed project on landform and topography are considered to be less than significant (Criterion 5-8).

Landslides, Soil, and Seismic Hazards

The projects sight is flat without any slopes or hillsides to otherwise create landslide or mudslide conditions. There are no hillsides in the immediate vicinity of property and no likelihood of exposure of people or property to geological hazards, such as slides or ground failure, that could not be rectified by implementing standard design measures and/or construction and maintenance practices (Criteria 5-1 and 5-2).

The site is subject to ground shaking from earthquakes, as is the entire Southern California region. Ground shaking may cause property damage and personal injury ranging from slight to severe, depending on the magnitude and motion of movement of the individual earthquake and any association aftershocks. The project site is not located in an Alquist Priolo Earthquake Fault Zone or within a known active fault zone or an area characterized by surface rupture that might be related to a fault. The nearest fault is approximately three miles southwest of the project site. The project site

has not been subject to ground rupture in its history nor would it likely be subject to ground rupture from seismic events in the future (Criteria 5-5 and 5-6).

Liquefaction occurs when ground shaking and high groundwater cause loose, sandy soil to behave like quicksand rather than a solid material. Subsequently, these soils cannot support weight, which can result in the collapse or displacement of building foundations. Due to the absence of a shallow water table (i.e., groundwater depth is more than 20 feet below the surface) and the moderately high density of soil materials beneath the site, the risk of liquefaction is considered negligible (Criterion 5-5).

The extremely thick alluvial deposits that underlie the area are subject to differential settlement during intense shaking associated with seismic events. This type of seismic hazard results in damage to property when an area settles to different degrees over a relatively short distance. The actual potential for settlement is, however, difficult to predict. In the history of the Fairgrounds, no record or indication of differential settlement has been noted (Criterion 5-7).

Strong ground shaking from seismic events (earthquake) could cause soil settlement by allowing settlement particulate to become more tightly packed, reducing pore space. Poorly compacted (unconsolidated) surficial deposits and artificial fills may experience seismically induced settlement. Expansive soils are present on the site, and structural damage, such as cracking, heaving, and buckling of foundations, could occur if soils are not properly prepared during construction. Expansive and unconsolidated soils represent a potentially significant impact prior to mitigation. Mitigation Measure 5-1 will reduce this potential impact to a less than significant level. Standard erosion control practices will be required of the project contractor during construction. Implementation of these measures will ensure that Criteria 5-3, 5-4, and 5-7 would not be exceeded.

Mitigation Measure 5-1 Prior to issuance of the Notice to Proceed, project grading plans and structural plans for all buildings shall incorporate soil and seismic foundation recommendations of an updated soils and geotechnical report. In the updated soils and geotechnical report, the geotechnical engineer shall recommend one or more of the following measures, or other measures as determined appropriate, to treat expansive soils: presaturation of subgrade soils, increased reinforcement of concrete foundation elements, increased foundation embedment, use of posttensioned grade beams and floor slabs, blanketing the surface with nonexpansive compacted fill, blending expansive soils with nonexpansive soils, chemical stabilization, and/or increased jointing of building improvements.

During design and grading, expansive soils shall not be placed or left at or near final grade unless special design and construction procedures are planned to offset the effects of such soils. If deemed necessary during grading operation, soil placement shall be supervised by the project's geotechnical engineer.

During plan check and prior to issuance of the Notice to Proceed, the California Construction Authority shall confirm that recommended site preparation and compaction features are noted on all building plans and implemented as part of the construction level geologic review and investigation for the proposed project design.

Phasing

Project phasing will not create any short-term or long-term impacts for topography and earth resources, nor will it require mitigation measures beyond those specified in the analysis above.

4.5.6 SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Upon implementation of the above specified Mitigation Measure, the identified project impacts for Earth resources and topography will be reduced to below a level of significance.

4.6 HYDROLOGY AND WATER QUALITY

Information in the section regarding surface drainage is from the following source: *Hydrology/Hydraulic Report for Orange County Fair and Exposition Center*, Fuscoe Engineering, Inc., July 2002. The report is in Appendix D of this EIR.

4.6.1 EXISTING SETTING

Regulatory Requirements Overview

In 1972, the Federal Water Pollution Control Act (also known as the Clean Water Act) was amended to prohibit the discharge of any pollutant to navigable waters from a point source unless the discharge is authorized by a National Pollutant Discharge Elimination System (NPDES) permit. In 1987, the Clean Water Act (CWA) was amended to include Section 402(p), which regulates nonpoint source pollution through pollution prevention programs. Unlike point source discharges, which originate from a single identifiable source, nonpoint sources are diffuse in nature and are difficult to pinpoint as originating from a distinct facility and its effluent. Hence they are classified by broad categories of land uses and activities (e.g., manufacturing, construction activities, transportation activities, etc.). Rather than setting numerical effluent limitations as in point source regulation, nonpoint source regulation calls for the implementation of Best Management Practices (BMPs) to reduce or prevent the discharge of pollutants from these activities to the maximum extent practicable (MEP).

As a result of these regulations, operators of storm water systems in Orange County have been required to:

- Develop a storm water management program that is designed to prevent harmful pollutants from being dumped or washed by storm water runoff into the storm water system and then discharged into local water bodies
- Obtain an NPDES permit

In most cases, the NPDES permit program is administered by authorized states. In California, these programs are administered by the State Water Resources Control Board (SWRCB) and by nine regional boards that issue NPDES permits and enforce regulations within their respective region. Permits are issued to owners and operators of 1) municipal separate storm sewer systems (MS4s), 2) 11 specific categories of industrial activity, and 3) construction activities one acre or greater. Orange County lies within the jurisdiction of both the Santa Ana and San Diego Regions. These two regional boards issued the first Orange County municipal NPDES permit in 1990 to the "Orange County

Storm Water Program," a partnership between the County, all cities within Orange County, and the O.C. Flood Control District.[1]

The Santa Ana Regional Water Quality Control Board (RWQCB) administers the NPDES permit requirements within the project area under the guidance of the SWRCB. Although the project falls directly under the jurisdiction of the State, water quality measures should be consistent with County and local regional board standards because runoff from the site drains into an MS4. Specifically, the project must comply with three nonpoint source pollution prevention programs: 1) NPDES permitting program for storm water discharges associated with construction activities, 2) the municipal storm water NPDES permitting program, and 3) Total Maximum Daily Loads (TMDLs) for 303(d) listed impaired water bodies.

NPDES Requirements

The proposed project is subject to the regulations of the NPDES general permit for storm water discharges associated with construction activities (also known as the General Permit) issued by the SWRCB. This permit addresses both storm water and non-storm water discharges from construction sites. The General Permit requirements include the development of a Storm Water Pollution Prevention Plan (SWPPP) with a monitoring program, and the use of BMPs to eliminate or reduce prohibited non-storm water discharges generated from construction activities and post-construction operations of the facility. The proposed project must file a Notice of Intent to apply for General Permit coverage prior to the commencement of construction activity.

As a development located in the City of Costa Mesa and the County of Orange (owners and operators of MS4s that are subject to the municipal storm water NPDES Permit), the Orange County Fair and Exposition Center (OCFEC) is also obligated to implement RWQCB approved structural (i.e. common area efficient irrigation and energy dissipaters) and non-structural (i.e. employee training and education of property owners) BMPs to limit urban pollutants generated by the construction and operational (post-construction) phases of the project from reaching MS4s and ultimately to receiving waters bodies of the United States, such as Upper Newport Bay. Permittees of the municipal storm water NPDES Permit, such as the City and County, require all significant development and redevelopment projects within their jurisdiction to implement these BMPs, since these projects are dischargers into municipal storm sewer systems for which they are responsible. The BMPs chosen for the project site must be summarized in a Water Quality Management Plan that is submitted to the City for review and approval prior to the commencement of construction activity. Approved BMPs can be found in the County of Orange Drainage Area Management Plan (OC DAMP).

The Santa Ana RWQCB, under the guidance of the SWRCB, administers and oversees the storm water NPDES Permit programs within the Newport Bay Watershed, in which this project resides. As of January 18, 2002, the Santa Ana RWQCB adopted and issued Phase II of the municipal storm water NPDES Permit, which calls for more stringent control of pollutants introduced into MS4s. The County is in the process of revising the DAMP to incorporate these new regulations. Those

[1] The County of Orange was named as principal permittee, and the Orange County Flood Control District and the incorporated cities were named as co-permitees.

regulations that are applicable to the proposed OCFEC redevelopment project include the application of numerically based standards for the design of post-construction BMPs. The County and co-permittees have until March 3, 2003, to put the new regulations into their respective ordinances. The proposed project will implement water quality design features that are consistent with the Phase II Storm Water Permit requirements and local municipal ordinances.

Copies of the 2002 NPDES permit and the 2000 Orange County DAMP are in Appendix D of this EIR.

TMDL Requirements

To achieve its goal of protecting the physical, chemical, and biological integrity of the waters of the United States, the CWA not only set standards for storm water and non-storm water discharges, but also for receiving waterways and water bodies. The CWA requires that states designate beneficial uses for water bodies in their jurisdiction, along with water quality criteria based upon these uses. Beneficial uses of water bodies describe the appropriate uses of a particular water body based on current and historical use of it, such as contact recreation or drinking water uses. Water quality criteria are expressed either as numeric concentrations, levels of constituents, or narrative summaries that represent the quality of water that supports the designated beneficial use.

Where water quality standards are not being achieved, the CWA requires identification and listing of that water body as "impaired" under Section 303(d). Once a water body is listed, a TMDL for the identified pollutant must be developed for that water body. A TMDL is an estimate of the daily load of pollutants that a water body may receive without exceeding its water quality standard. Those facilities that are discharging (point source and non-point source dischargers) into the water body, collectively, must not exceed the TMDL.

The Santa Ana RWQCB has designated the following beneficial uses for Upper Newport Bay: 1) contact water recreation; 2) non-contact water recreation; 3) commercial and sport fishing; 4) preservation of biological habitats of special significance; 5) wildlife habitat; 6) rare, threatened, or endangered species; 7) spawning, reproduction, and/or early development; 8) marine habitat; 9) shellfish harvesting; and 10) estuarine habitat. The RWQCB has listed Upper Newport Bay as impaired for these beneficial uses. As a result, TMDLs have been established for the constituents listed in Table 4.6.A.

The Paularino Channel and Santa Ana Delhi Channel are classified as tributaries that drain to the Upper Newport Bay, and therefore are subject to the same beneficial uses and TMDL requirements as the Upper Newport Bay.

Surface Drainage

The OCFEC is geographically located in central Costa Mesa and has existed there for over half a century, with some of its existing buildings dating as far back as WWII. The majority of the city itself is part of the San Diego Creek Watershed, which covers approximately 113 square miles in

Table 4.6.A: Total Maximum Daily Loads for Upper Newport Bay

TMDL	Specific Constituents	Targeted Reduction
Sediment	Total Suspended Solids (TSS)	50% annual load reduction by 2008
Nutrients	Nitrate, other nitrogen compounds, phosphorus compounds	50% avg. annual load reduction in Total Inorganic Nitrogen (TIN) by 2012
Pathogens	Pathogenic bacteria, viruses, and protozoa	200 MPN per 100 mL by 2012
Toxics	Trace metals (2 identified: selenium and copper) Various pesticides (2 identified: diazinon, chlorpyrifos)	Not yet determined (expected 2003)

central Orange County. The entire watershed drains into Upper Newport Bay as a result of the channelization of San Diego Creek through a major flood control project completed in 1968. The eastern portion of the City, including OCFEC, resides in the Newport Bay Watershed, a much smaller drainage area of approximately 13.2 miles. Surface runoff from the project site indirectly reaches Upper Newport Bay via tributaries such as the Paularino and Santa Ana Delhi Channels.

The Fairgrounds has three main drainage areas. The west drainage area drains to the Fairview Road storm drain. The east drainage area drains to the Newport Boulevard storm drain. The north drainage area drains to the Arlington Drive storm drain.

Under the existing condition, the total drainage area of the project site is approximately 150 acres. Approximately 33 acres drain westward to a 66-inch storm drain in Fairview Road, 61 acres drain eastward to a 54-inch storm drain system in Newport Boulevard, and the remaining 53 acres drain northward to a 54-inch storm drain in Arlington Drive. The Arlington Drive storm drain joins the Newport Boulevard storm drain at the intersection and then drains to the Santa Ana Delhi Channel before discharging into Upper Newport Bay. The Fairview Road storm drain enters Paularino Channel and then discharges into Delhi Channel, which empties into Upper Newport Bay.

Based on the Orange County Hydrology Manual (with AES software model), hydrology for the existing ±150-acre property was calculated for 10- year, 25-year, and 100-year storm events. The existing property was divided into 13 subdrainage areas as shown on the existing drainage map (Figure 4.6.1, Existing Storm Drain Facilities Map). Table 4.6.B shows the existing surface hydrology conditions.

The west drainage area consists of Areas A through C, the east drainage area consists of Areas D through F, and the north drainage area consists of Areas G through M and off-site Area N (Arlington Drive). The peak discharge of a 100-year storm event from the west drainage area is estimated at 108 cubic feet per second (cfs), the east drainage area at 166 cfs, and the north drainage area at 131 cfs.

Flooding presently occurs on Arlington Drive during storms as a result of an undersized trapezoidal channel. The City of Costa Mesa installed storm drain improvements along the eastern portion of Arlington that are sufficient to meet existing and proposed flow conditions for that portion of the road; however, flooding will continue to occur on Arlington Drive without improvements to the channel and/or extension of the storm drain.

Although the Arlington Drive storm drain facilities and channel are within the City of Costa Mesa's public right-of-way, a significant portion of the total runoff entering these facilities is generated on the OCFEC. There is a history of discussion and consultation between the OCFEC and the City in identifying strategies to address this issue.

Water Quality

The Fairgrounds consists of a multitude of land uses including parking lots, an equestrian area, exhibition and administration buildings, a maintenance yard, a theater, a farm, an arena, and horse trailer storage areas. Each different land use within the Fairgrounds contributes different urban

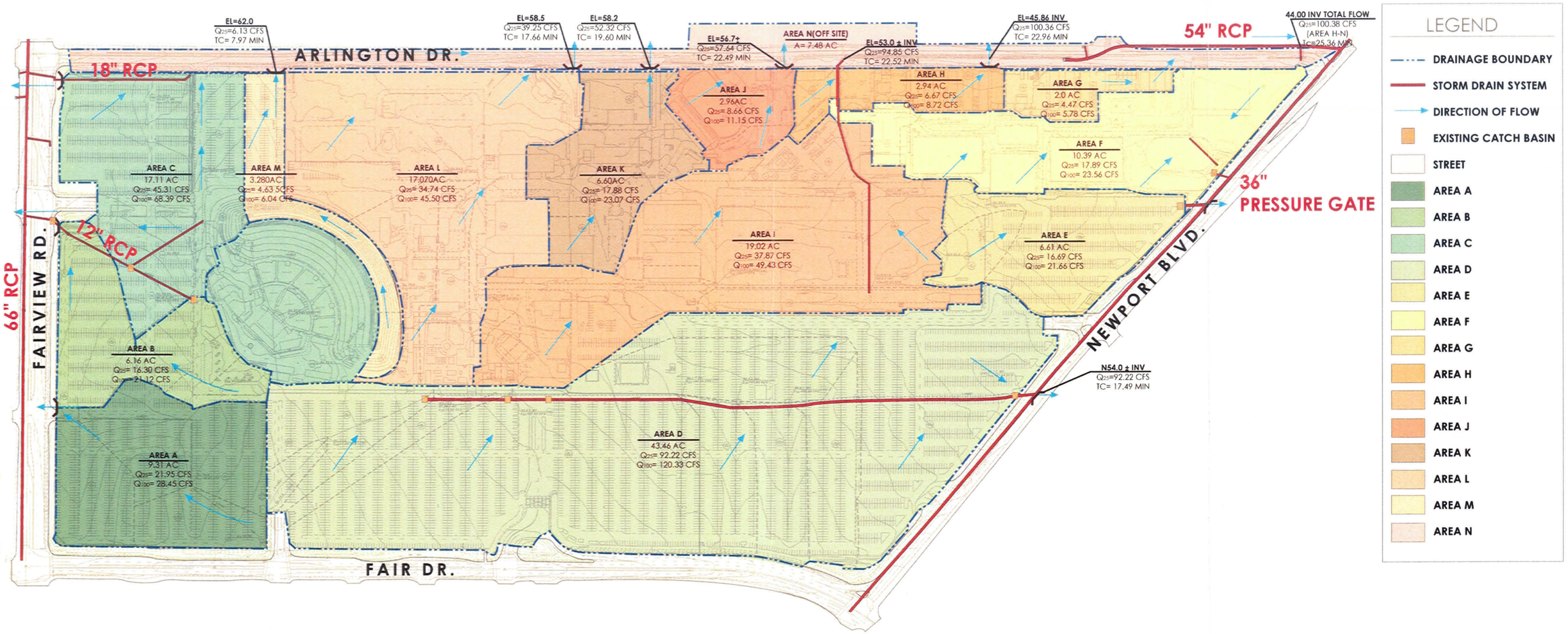

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FIGURE 4.6.1

Orange County Fair and Exposition Center

Existing Storm Drain Facilities Map

SOURCE: Fuscoe Engineering

I:\Ccz030\G\Existing Storm Drain.cdr (9/26/02)

Table 4.6.B: Existing Surface Hydrology

Area	Acreage	Q25 (cfs)	Q100 (cfs)
A	9.31	21.95	28.45
B	6.16	16.30	21.12
C	17.11	52.53	58.75
D	43.46	92.22	120.33
E	6.61	16.69	21.66
F	10.39	17.89	23.56
G	2.00	4.47	5.78
H	2.94	6.76	8.72
I	19.02	37.87	49.43
J	2.96	8.66	11.15
K	6.60	17.88	23.07
L	17.07	34.74	45.50
M	3.28	4.63	6.04
Total	146.91[1]	332.59	423.56
N (off site)	7.48		

[1] Apparent acreage discrepancies (e.g., 150± ac) are related to CAD mapping calculations and do not represent a significant concern or issue.

pollutants associated with the facilities. For example, parking lots are a significant source of sediment, particulate, trash, debris, and oil/grease due to the large numbers of vehicles and people that use the lots. Farm and equestrian facilities, on the other hand, are typically a significant source of other pollutants such as nutrients and coliform bacteria. Table 4.6.C provides a summary of the existing land uses and the expected pollutants for each.

The OCFEC has occupied the project site for over 50 years; however, there are few water quality BMPs, if any, designed in the existing drainage system to control urban runoff impacts downstream. Runoff from the site is collected into a subsurface drainage system without treatment and conveyed directly into City storm drain systems before ultimately discharging into Upper Newport Bay.

The OCFEC has in the past been required by the RWQCB to drain internally to a retention basin. This was intended to reduce the amount of livestock waste that could eventually make its way into Newport Bay during a storm. When originally built, the basin was to retain dry season runoff and storm water flows and allow for percolation and evaporation to remove the water. This approach was tried for several years; however, local soil conditions made it impossible to achieve adequate percolation even with the installation of percolation pits.

In 1987, the OCFEC obtained approval from the RWQCB to change the system so that full retention would no longer be required. The new system, completed in 1992, retains nuisance or dry season flows and allows high flows to bypass into the existing public storm drain system. The new, smaller capacity retention basin utilizes an electric pump to remove nuisance water and a pressure activated flap gate to allow large flows to run into the public storm drain in Newport Avenue. The basin is mucked out once a year before the rainy season, and the sediment is taken to an approved disposal site. In addition, standard operations of animal facilities were improved so that waste from the Equestrian Center and Centennial Farm is picked up daily, kept in covered containers, and removed regularly to an approved disposal site.

Without any water quality treatment measures, it can be assumed that the project site is a contributor of urban runoff into the Paularino Channel, the Santa Ana Delhi Channel, and Upper Newport Bay.

4.6.2 THRESHOLDS OF SIGNIFICANCE

The following criteria are based on issues of significance in the CEQA Guidelines pertaining to flooding and runoff and other hydrological aspects. The effects of the proposed project on hydrology/water quality resources are considered to be significant if the project:

6-A Substantially alters the existing drainage pattern of a site or area, including through the alternation of the course of a stream or river, in a manner that would result in substantial erosion or siltation and/or flooding on or off the site.

6-B Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems.

Table 4.6.C: Existing Land Uses and Expected Pollutants

Drainage Area	Acreage (acres)	Major Land Use	Expected Pollutants
A-E	82.9	Parking Lot	Hydrocarbons, oil/grease, brake dust, trash, debris, particulates, sediment, heavy metals
F-G	12.40	Equestrian	Nitrates, phosphates, pathogens, sediment
H	2.9	Animal Farm Display/Agricultural	Nitrates, phosphates, pathogens, sediment
I	19	Parking/Buildings	Hydrocarbons, particulates, sediment, heavy metals
J	3	Buildings	Sediment, particulates
K	6.6	Maintenance Yard	Hydrocarbons, oil/grease, heavy metals
L-M	20.4	Parking/Buildings	Hydrocarbons, particulates, sediment, heavy metals

6-C Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality. Runoff from the completed project area would adversely impact designated Beneficial Uses in the runoff receiving watersheds, or would substantially impact public agency efforts to improve any currently recognized conditions of water quality impairment.

6-D Substantially deplete groundwater supplies or substantially interfere with groundwater recharge, such that there would be a net deficit in aquifer volume of a lowering of the groundwater table level.

6-E Place structures within a 100-year floor hazard area, such that the structures would impede or redirect flood flows.

6-F Expose people or structures to a significant risk of loss, injury, or death involving flooding.

4.6.3 PROJECT DESIGN FEATURES

As outlined in the project description and in the discussion below, a comprehensive drainage system plan has been prepared for the proposed project. The Hydrology Report provides evidence that proposed drainage patterns will not overload existing and/or planned storm drains and provides design provisions for surface drainage and all necessary storm drain facilities, including applicable swales, channels, and catch basins, which will allow building pads to be at least one foot above the 100-year floodplain as required by the Orange County Hydrology Manual (1986). All specific hydrologic project design features have been incorporated into the drainage system plan and are being analyzed as part of the proposed project.

4.6.4 IMPACTS AND MITIGATION MEASURES

Changes in Absorption Rates, Drainage Patterns, or Rate and Amount of Surface Water Runoff

Development of the proposed project will not significantly alter the absorption rates, drainage patterns, or rate and amount of surface water runoff on the property. Overall, there is an increase in acreage drained (compare Tables 4.6.B and 4.6.D); however, drainage quantities for the 25-year storm and 100-year storm are decreased. Implementation of the proposed project will require regrading of a significant portion of the site, resulting in a different on-site drainage area configuration. Figure 4.6.2, Proposed Storm Drain Facilities, depicts the proposed configuration.

The west drainage area (Areas A–C) that drains to Fairview will decrease from approximately 34 acres to 30 acres when the area around the Amphitheater is graded for a park. The 100-year peak discharge for the west drainage area is estimated at 97.3 cfs. This is a 10 percent decrease from the projected discharge under existing conditions.

Table 4.6.D: Proposed Surface Hydrology

Area	Acreage	Q25 (cfs)	Q100 (cfs)
A	9.31	21.95	28.45
B	6.16	16.30	21.12
C	14.35	36.52	47.70
D	39.35	84.17	109.21
E	3.47	9.09	11.75
F	8.39	11.34	14.86
G & H (off-site)	72.26	123.68	160.97
Total	153.29[1]	303.05	394.06

[1] Apparent acreage discrepancies (e.g., 150± ac) are related to CAD mapping calculations and do not represent a significant concern or issue.

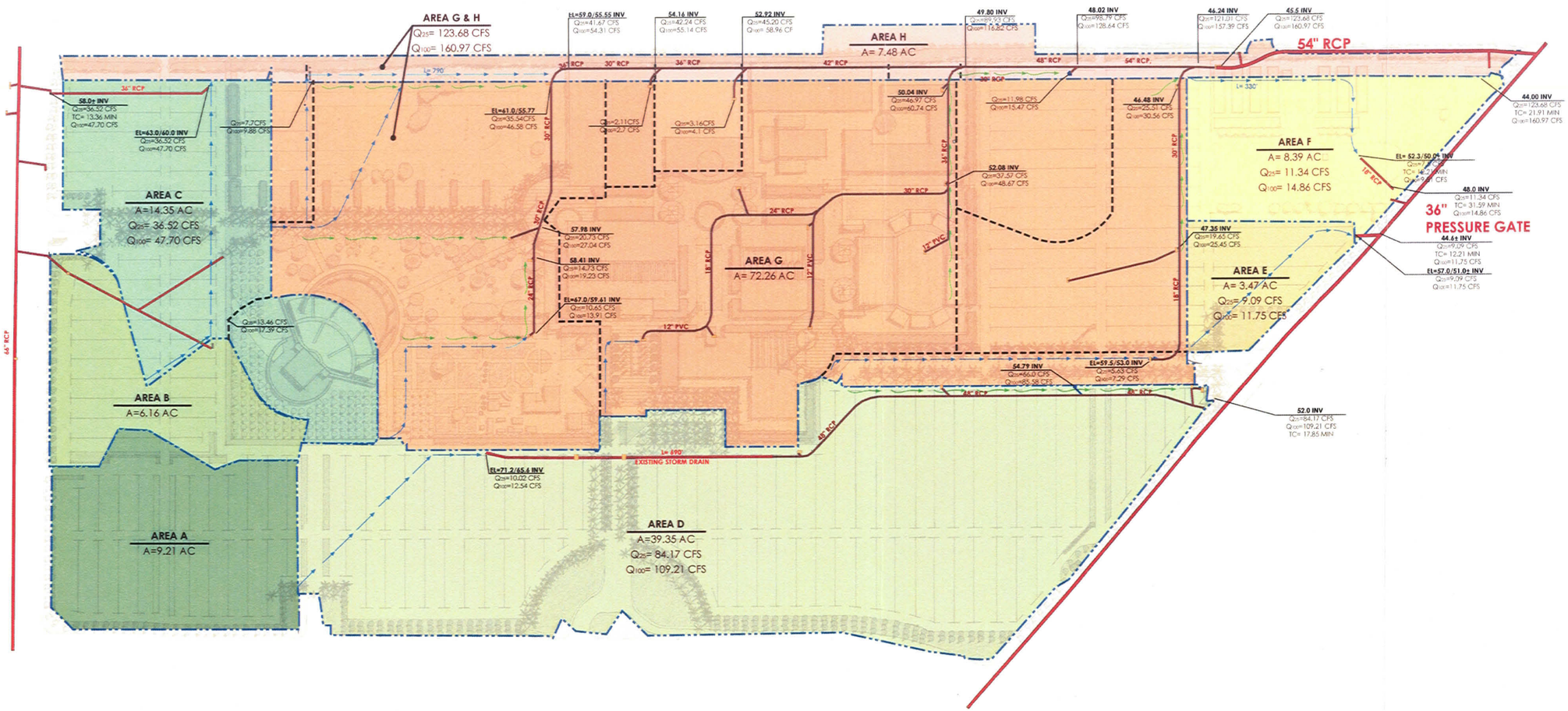

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FIGURE 4.6.2

NO SCALE

SOURCE: Fuscoe Engineering

I:\Ccz030\G\Proposed Storm Drain.cdr (9/26/02)

Orange County Fair and Exposition Center

Proposed Storm Drain Facilities Map

The east drainage area (Area D–F) that drains to the Newport Boulevard storm drain will decrease from approximately 62 acres to 52 acres with the addition of new landscaping. The 100-year peak discharge for the east drainage area is 136 cfs. This is a 20 percent decrease from the projected discharge under existing conditions.

The north drainage area (Areas G and H roughly known as Areas G, H, I, J, K, L, and M for the existing drainage conditions) that drains to the Arlington Drive storm drain will increase from 61.35 areas to 72.3 acres when the Equestrian Center is condensed and a new parking area is paved. The 100-year peak flow for the north drainage area is 161 cfs. This is a 23 percent increase from the projected discharge under existing conditions. Table 4.6.D provides the projected flow for each of the drainage areas on the project site.

Comparison of existing conditions versus those of the proposed project (Tables 4.6.B to 4.6.D) indicates that the overall flow leaving the site will not significantly change—the site will experience a slight decrease in the Q100 cumulative flow from approximately 423 cfs to approximately 394 cfs. The reason for the reduction in the Q100 relates to the conversion of the berm to a relatively flat park. The amphitheater berm runoff is approximately 4.4 cfs per acre; the runoff for the park will be approximately 2.3 cfs per acre because more rain has a chance to absorb into the ground.

As previously mentioned, the proposed project will decrease storm water runoff from drainage areas C through F and increase the 100-year flow in Area G from 131.2 cfs to 161 cfs. The existing storm drains that serve drainage Areas E and F are sufficient to handle the existing and the proposed flow. However, storm drains in other drainage areas are currently insufficient to meet the demand of existing or proposed flow rates.

Specifically, the existing storm drains in drainage Areas C and D are insufficient to handle existing or proposed 100-year flow despite a 21 cfs flow reduction in drainage Area C and a 100 cfs flow reduction in drainage Area D. Likewise, the existing trapezoidal channel on Arlington Drive that serves Area G is undersized and cannot accommodate the existing or the projected 100-year flow for the proposed project.

The drainage problems currently experienced on the project site are not a project impact; however, the proposed project will address these issues through a series of storm drain improvements. The proposed project will extend the 54-inch reinforced concrete pipe (RCP) on Arlington Drive by 2,000 feet, with six storm drain laterals to the on-site system. The purpose of this improvement is to collect project site runoff draining to Arlington and to prevent flooding. The Arlington Drive storm drain facilities are within the City of Costa Mesa's public right-of-way, and any improvements to these facilities will be implemented as a joint project between the OCFEC and the City of Costa Mesa.

Another key component of the proposed project is a series of storm drain replacements in areas C and D. The proposed Master Plan will replace the existing 18-inch RCP in Area C with a 36-inch RCP and a 14-foot catch basin. It also will realign and replace the storm drain system in Area D with a 48-inch RCP and at least four 10-foot catch basins. These on-site storm drains will collect runoff from various locations throughout the project site and convey the runoff to public storm drains. Figure 4.6.2, Proposed Storm Drain Facilities, illustrates the proposed storm drain system for the project.

Although the proposed project would alter surface flow patterns, the site is already developed and is surrounded by urban development. There are no natural stream courses that would be affected, and, because the site is topographically flat, the change in drainage pattern with the proposed storm drain system is not considered significant. The proposed project would not exceed Impact Significant Criterion 6-A.

The proposed drainage system will be designed and constructed in accordance with the requirements of the Orange County Hydrology Manual. The proposed storm drains on site will be designed to accommodate the 100-year frequency. The improved drainage facilities will adequately accommodate the projected runoff quantity and rate of flow. While existing storm drain facilities are currently under capacity, the proposed project will reduce overall site discharge by 2.5 percent and improve on-site and off-site drainage facilities. Improvements to drainage facilities will be incrementally implemented in phases established by the Master Plan.

Therefore, although the project site contributes runoff that exceeds the capacity of existing drainage systems, the proposed project includes improvements that will mitigate any impacts related to Impact Significance Criterion 6-B to below a level of significance.

Water Quality and Discharge into Waters of the United States

Construction Phase. Construction activities during project implementation may lead to increased sedimentation due to the disturbance of exposed soils during grading, increased potential for nonvisible pollutants from construction materials to enter the storm drain system, and nonstorm water discharges associated with construction activities such as street washing. Water quality impacts during the construction phase of the project are regulated under the SWRCB NPDES General Permit for Storm Water Discharges Associated with Construction Activity (General Permit) No. CAS000002. With implementation of Mitigation Measures 6-1 and 6-2, short-term water quality impacts will be reduced to below a level of significance.

Mitigation Measure 6-1 The proposed project must file a Notice of Intent (NOI) to apply for General Permit coverage prior to the commencement of construction activity. A Storm Water Pollution Prevention Plan (SWPPP) will be prepared in accordance with SWRCB Order No. 92-08-DWQ. The SWPPP shall be submitted to the Santa Ana RWQCB for review and comments. The SWPPP shall include a surface water control plan and erosion control plan to be implemented during construction. The SWPPP will emphasize structural and nonstructural BMPs to control sediment and nonvisible discharges from the site. Some of the BMPs to be implemented include the following:

- Sediment discharges from the site may be controlled by the following: sandbags, silt fences, straw wattles and temporary debris basins (if deemed necessary), and other discharge control devices. The construction and condition of the BMPs will be periodically inspected during construction, and repairs will be made when necessary as required by the SWPPP.

- All materials that have the potential to contribute nonvisible pollutants to storm water must not be placed in drainage ways and must be contained, elevated, and placed in temporary storage containment areas.
- All loose piles of soil, silt, clay, sand, debris, and other earthen material shall be protected in a reasonable manner to eliminate any discharge from the site into the existing and proposed storm drain system. Stockpiles will be surrounded by silt fences and covered with plastic tarps.
- The SWPPP will include inspection forms for routine monitoring of the site during the construction phase to ensure NPDES compliance.
- Additional BMPs and erosion control measures will be documented in the SWPPP and utilized if necessary.
- A Sampling and Analysis Plan (SAP) will also be included in the SWPPP that outlines a monitoring and sampling plan in accordance with SWRCB Resolution 2001-046.

The SWPPP will be kept on site for the entire duration of project construction and will also be available to the local RWQCB for inspection at any time. This measure will be verified by the California Construction Authority prior to issuance of the Notice to Proceed.

Mitigation Measure 6-2 The Construction Contractor shall be responsible for performing and documenting the application of BMPs identified in the Storm Water Pollution Prevention Plan (SWPPP). Weekly inspections shall be performed on the sand bag barriers and other sediment control measures called for in the SWPPP. Monthly reports shall be maintained by the California Construction Authority Project Manager. Inspection records and compliance certification reports shall be submitted to the California Construction Authority Project Manager on a monthly basis and shall be maintained for a period of three years. Inspection schedules shall be monthly during the dry season and weekly during the wet season.

The contractor shall inspect BMP facilities before and after every rainfall event that is predicted to produce observable runoff, and at 24 hour intervals during extended rainfall events, excepting days when there is no ongoing site activity. Pre-storm activities will include inspection of the major storm drain grate inlets and examination of other on-site surface flow channels and swales, including the removal of any debris that blocks the flow path. Post-storm activities will include inspection of the grate inlets, looking for any ponded water on the site and determining the cause, and looking for surface erosion. The Construction Contractor shall implement corrective actions specified by the California Construction Authority Inspector, as necessary.

Postconstruction Phase

The proximity of the Fairgrounds to the Upper Newport Bay raises concerns, because the water body is listed as impaired under the Clean Water Act Section 303(d) listing issued by the SWRCB and local board.

As previously mentioned, runoff from the project site ultimately drains into Upper Newport Bay, and without any water quality treatment measures, it can be assumed that the project site—in its existing condition—is a contributor to the water quality problems that exist in the Upper Newport Bay. The proposed project addresses the possibility that long-term water quality impacts exist and that Impact Significance Criterion 6-C may be exceeded prior to project construction. The impacts exist at present and are not a result of the proposed project.

The proposed project calls for the construction of additional impervious surfaces, such as parking lots, and as a result, will increase the surface runoff and pollutants associated with these land uses. The project will generate typical urban runoff that can contain various contaminants (e.g. household cleaners, pesticides, fertilizers for landscape maintenance, petroleum based products, tire rubber, grease from automobile use on site).

Farm and equestrian facilities are typically a significant source of other pollutants because of high levels of nitrates and phosphorus, harmful bacteria such as fecal coliform and salt found in manure. These pollutants pose a serious health risk to humans and animals and may mean that contaminated water cannot support recreation, provide a healthy aquatic environment, or meet CWA requirements. Table 4.6.E provides a list of project site pollutants of concern for Upper Newport Bay, potential sources, and regulatory actions for each pollutant.

The proposed project will improve the water quality of runoff leaving the site by incorporating BMPs into the proposed site plan to the maximum extent practicable. This is consistent with the TMDL requirement (nutrients, sediment, and pathogens) established by the RWQCB in the 2002 municipal storm water NPDES permit. As the TMDL process evolves and numerical water quality objectives are set for urban runoff, the OCFEC will incorporate them into its WQMP for monitoring and compliance.

The proposed project includes BMPs designed to limit or prevent pollutants generated by project site land uses from entering the MS4s and the Upper Newport Bay. Figure 4.6.3, Conceptual Water Quality Management Plan, shows the BMPs chosen for the project site and their location. For each major land use, the approximate acreages and required treatment levels are identified below, along with the expected pollutants, BMPs, and expected removal efficiencies associated with each BMP.

Table 4.6.E: Pollutants of Concern

Category of Constituents	Specific Pollutant(s)	Regulatory Action	Potential Sources Associated with Proposed Project
Sediment	Total Suspended Solids (TSS)	Sediment TMDL for San Diego watershed and Upper Newport Bay	Construction phase
Nutrients	Nutrients (phosphorus and nitrogen)	Nutrient TMDL for San Diego Creek watershed and Upper Newport Bay	Fertilizer application for landscape maintenance, parking lots and roads (automotive exhaust)
Pathogens	Pathogenic bacteria, viruses, and protozoa	Pathogen TMDL for San Diego Creek Watershed and Upper Newport Bay (TMDL requirements expressed in terms of fecal coliform indicator)	Animal sources (horses, birds, etc.) and organic fertilizers
Toxics	Trace metals (e.g., copper, lead, zinc) with specific attention to copper and selenium Pesticides (with specific attention to diazinon and chlorpyrifos)	San Diego Creek and Upper Newport Bay are listed for metals, pesticides, and unknown toxicity; TMDL scheduled for completion	Metals: parking lots, roads (brake dust and rubber tire wear) Pesticides: application for landscape maintenance

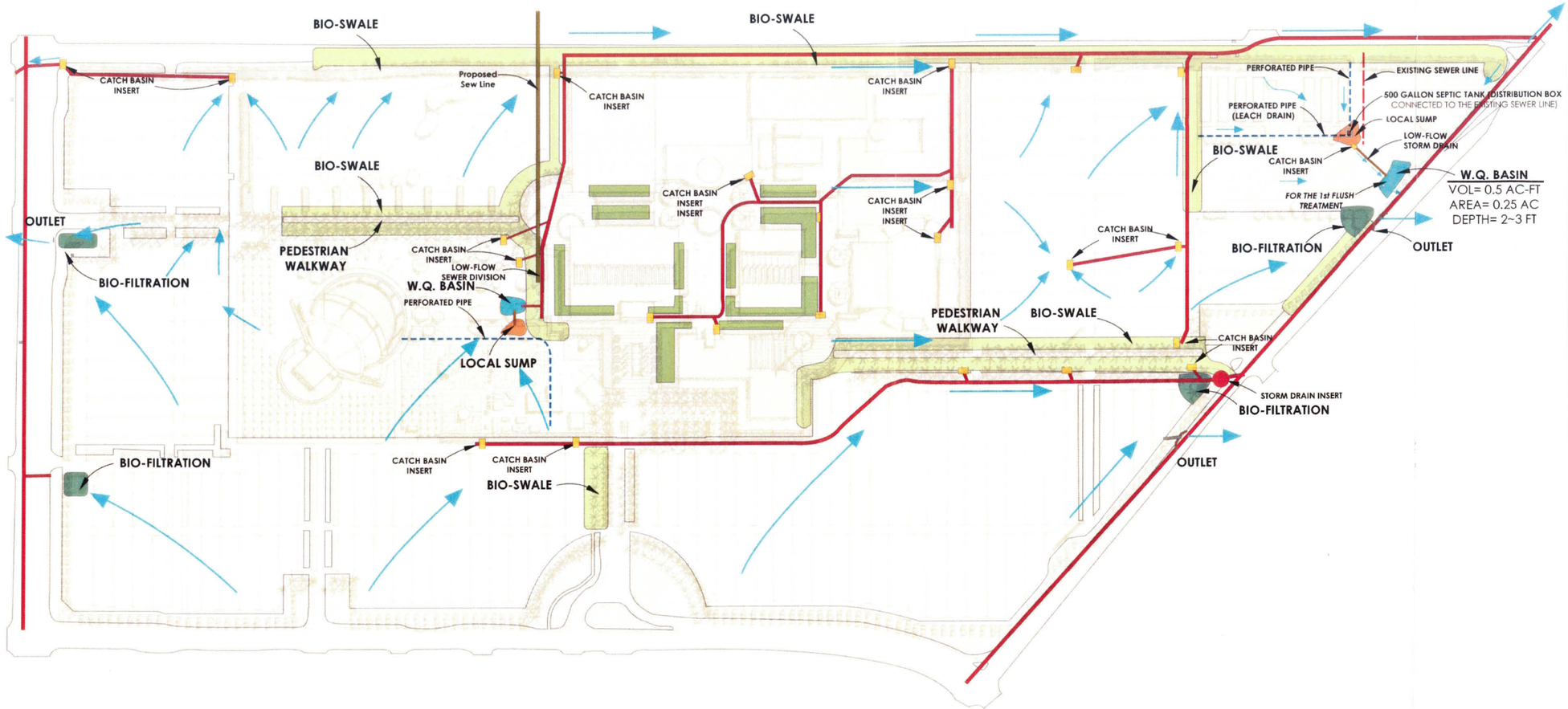

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FIGURE 4.6.3

N

NO SCALE

SOURCE: Fuscoe Engineering

I:\Ccz030\G\Conceptual Water Qual Plan.cdr (12/20/02)

Orange County Fair and Exposition Center

Conceptual Water Quality Management Plan

Parking Lot: Parking lot drainage will be graded towards a series of linear drainage swales designed to remove sediments, heavy metals, debris, and small particulates from storm water runoff and nuisance flows (see Figure 4.6.4, Bio-Swale, and Table 4.6.F). Before discharging into the subsurface storm drain system, a hydrocarbon absorber will be placed in the catch basin to remove the hydrocarbons that exit the bioswales. In certain regions where bioswales are not feasible, catch basin inserts will be utilized to remove sediments, particulates, and hydrocarbons from the first flush event (see Figure 4.6.4, Storm Drain Insert).

Table 4.6.F: Parking Lot BMPs and Treatment Requirements

Drainage Area	Acres	Q_T (CFS)	V_T (Ac-ft)	BMP(s)
A	9.21	1.5	0.5	Biofiltration
B	4.4	0.7	0.2	Biofiltration
C	10.4	1.7	0.6	Catch Basin Insert
D	39.4	6.4	2.1	Bio-swale & Storm Drain Insert
E	3.5	0.6	0.2	Bio-swale & Bio-filtration
G	16.1	2.6	0.9	Catch Basin Insert, Bio-swale

Q_T = Flow based treatment requirement for 85th percentile of 24-hour storm event
V_T = Volume based treatment requirement for 85th percentile of 24-hour storm event

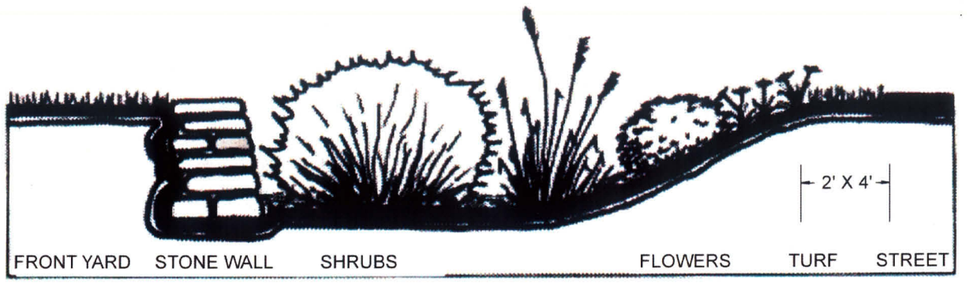
Equestrian/Farm: For these specific land uses, all dry-season flows and nuisance flows will be diverted into a septic tank and connected to the existing sewer system for high-level treatment of the nutrients and bacteria typically associated with animal waste. During rainfall events, first flush flows will be directed towards water quality basins to promote infiltration and biological uptake of nutrients expected in the runoff (see Figure 4.6.4, Water Quality Basin, and Table 4.6.G). The basins will be sized to properly accommodate the recommended sizing of first flush treatment. High flows will bypass directly into the storm drain system to reduce the potential for flooding.

Table 4.6.G: Equestrian/Farm BMPs and Treatment Requirements

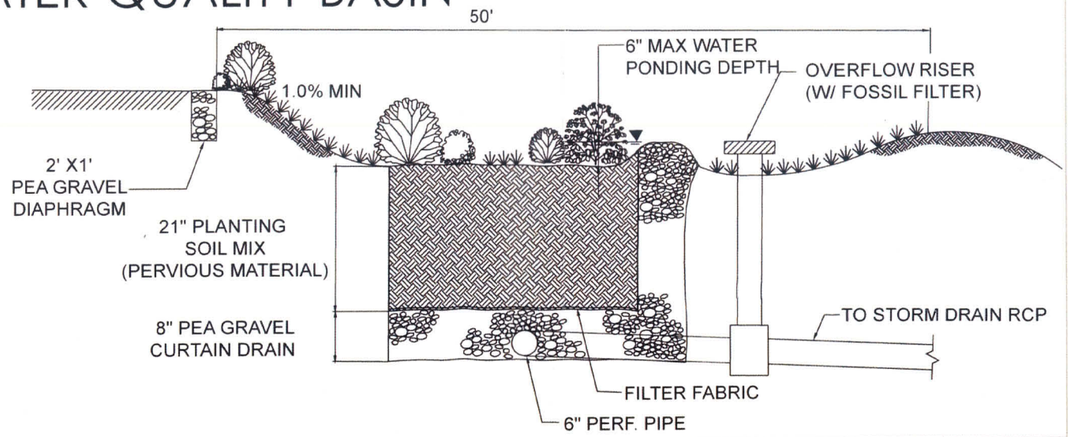
Drainage Area	Acres	Q_T (CFS)	V_T (Ac-ft)	BMP(s)
G	5.8	0.4	0.2	Low-flow Sewer Diversion & Water Quality Basin
F	9.39	0.7	0.2	Low-flow Sewer Diversion & Water Quality Basin

Q_T = Flow based treatment requirement for 85th percentile of 24-hour storm event
V_T = Volume based treatment requirement for 85th percentile of 24-hour storm event

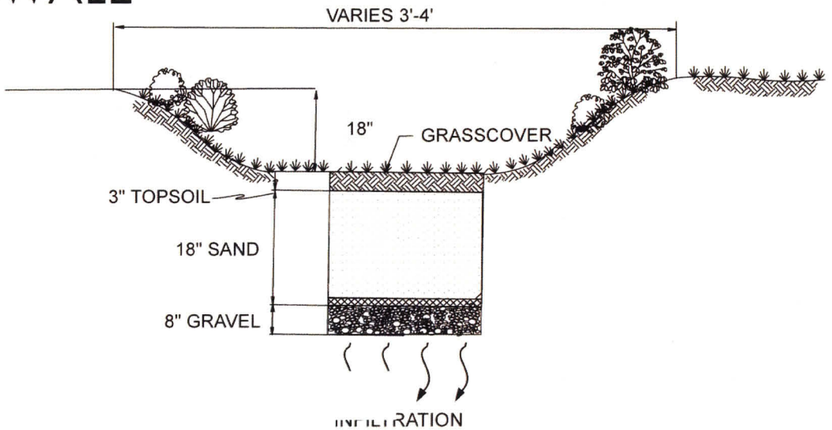
ON-LOT INFILTRATION



WATER QUALITY BASIN



BIO-SWALE



STORM DRAIN INSERT

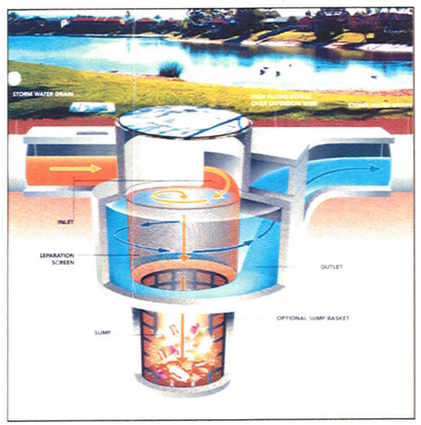


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FIGURE 4.6.4

Orange County Fair and Exposition Center

Cross Sections of Storm Drain Improvements

SOURCE: Fuscoe Engineering

I:\Ccz030\G\Cross Sect Storm Drain.cdr (9/27/02)

Building Mitigation: All roof drainage will be collected and discharged into specially designed planter areas that can remove sediments and particulates associated with atmospheric deposition. All planters will have subdrains that collect the infiltrated runoff into the storm drain. This on-lot infiltration BMP is highly recommended for runoff from buildings (see Figure 4.6.4, On Lot Filtration, and Table 4.6.H).

Table 4.6.H: Campus Building BMPs and Treatment Requirements

Drainage Area	Acres	Q_T (CFS)	V_T Ac-ft)	BMP(s)
C	3.99	0.6	0.2	Bio-swale or Catch Basin Insert
G	36.13	5.2	1.8	On-lot infiltration, Catch Basin Inserts & Bio-swale

Q_T = Flow based treatment requirement for 85th percentile of 24-hour storm event
V_T = Volume based treatment requirement for 85th percentile of 24-hour storm event

Recreation Park: Runoff from the park area will be graded into a bio-swale before discharging into the storm drain system. With proper fertilizer application and watering techniques, runoff from park areas is expected to be low with the majority of nuisance and low flow runoff percolating into the ground and bio-swale (see Figure 4.6.4, Bio-Swale, and Table 4.6.I). High flows will bypass as sheet flow to the storm drain collector system.

Table 4.6.I: Recreation Park BMPs and Treatment Requirements

Drainage Area	Acres	Q_T (CFS)	V_T Ac-ft)	BMP(s)
B	1.8	0.04	.02	Bio-swale
G	14.35	0.4	0.2	Bio-swale
H	7.5	0.2	0.1	Bio-swale

Q_T = Flow based treatment requirement for 85th percentile of 24-hour storm event
V_T = Volume based treatment requirement for 85th percentile of 24-hour storm event

In summary, a variety of BMPs have been incorporated into the proposed site design. The majority of runoff will be treated by a treatment train approach of two or more BMPs in order to effectively reduce pollutant loads to the MEP. As demonstrated, the selected BMPs shall remove at least 50 percent or greater of the following pollutants: TSS, hydrocarbons, and heavy metals. Pollutant reductions for nutrients are more difficult to obtain, but other BMPs such as fertilizer management strategies and drip system irrigation will act to minimize the quantities of nutrients entrained by storm water runoff.

Due to the small-scale nature of on-lot infiltration techniques, data sources are limited for BMP removal efficiencies; however, Table 4.6.J provides what information is available.

Table 4.6.J: BMP Efficiencies

	Pollutant Removal Efficiencies (median value)					
Pollutant	**Catch Basin Insert[1]**	**Storm Drain Insert[2]**	**Bio-swale[3,4]**	**Biofiltration[4]**	**On-lot Infiltration**	**Water Quality Basin[4,5]**
TSS	75%	75%	81%	86%	N/A	90%
Hydrocarbons	70%	70%	62%	N/A	N/A	N/A
Total-P	14%	N/A	9%	0%	N/A	58%
Soluble-P	0%	N/A	10%	N/A	N/A	65%
NO2 + NO3	N/A	N/A	40%	46%	N/A	20%
TKN	14%	N/A	40%	54%	N/A	20%
Cadmium	N/A	N/A	75%	N/A	N/A	70%
Copper	11%	N/A	51%	90%	N/A	60%
Lead	15%	N/A	67%	89%	N/A	70%
Zinc	5%	N/A	71%	85%	N/A	40%

1 Stenstrom, M.K., Lau, Sim-Lin, and E.Khan, 1998. "Catch Basin Inserts to Reduce Pollution from Storm Water," Civil and Environmental Engineering Department, UCLA.
2 Rinker Materials; Stormceptor Unit, 2002
3 USEPA Storm Water Fact Sheet, September 1999
4 StormWater Program, California Department of Transportation BMP Retrofit Pilot Program 2001
5 California Storm Water BMP Handbook, pg. B-9, 1993
Note: N/A = Data not available or not measured

These BMPs will be implemented in concert with the phasing program established by the Master Plan as administered by the 32nd DAA. The project BMPs and adherence to the NPDES Storm Water Permits and Mitigation Measure 6-3 will adequately control the amount of contaminants in the site runoff such that any impacts related to Impact Significance Criterion 6-C will be reduced to below a level of significance.

Mitigation Measure 6-3 The 32nd DAA shall submit and obtain approval of the Water Quality Management Plan (WQMP) from the City of Costa Mesa, Director of Development Services. The WQMP shall specifically identify Best Management Practices (BMPs) that will be used on site to control predictable pollutant runoff. Prior to issuance of the Notice to Proceed, the California Construction Authority will verify that approval from the City has been obtained for the WQMP.

Changes in Quantity or Quality of Groundwater

The proposed development will not affect local groundwater either by withdrawal or excavation work. Groundwater is located more than 20 feet below the surface. The proposed project does not meet or exceed Impact Significance Criterion 6-D; therefore, no mitigation is necessary.

Flooding

The project site is located in Flood Zone C on the Flood Insurance Rate Map. Zone C is the designation for areas of minimal flooding (no hazard). The project storm drain system will provide 100-year frequency flood protection via the proposed storm drains. The project storm drain system will provide more than adequate flood protection so that potential flooding impacts will be less than significant. The proposed project does not meet or exceed Impact Significant Criteria 6-E or 6-F.

Phasing

All storm drain and water quality improvements will be implemented in concert with the phasing program established by the Master Plan as administered by the 32nd DAA Board of Directors. The need for storm drain and water quality improvement is not a project or project phasing impact, but a response to an existing deficiency. Moreover, storm drain improvements are not required by phase because implementation of the proposed project will decrease the 25-year and 100-year cumulative flow from the project site. Each phase will, however, incrementally contribute to the overall improvement of storm drain facilities and water quality management. Phasing will not create any short-term or long-term impacts, nor will it require mitigation measures beyond those specified in the analysis above.

4.6.5 SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Implementation of the above cited mitigation measures will reduce the potential project impacts on hydrology and water quality to a less than significant level.

4.7 LAND USE

As stated in Chapter 3.0 of this report, the proposed project includes adoption and implementation of a Master Plan for the 150± acre Orange County Fair and Exposition Center (OCFEC) in the City of Costa Mesa, California. As a State owned property, land uses and development standards on the site are controlled by the State of California and the 32nd District Agricultural Association (32nd DAA). In the spirit of cooperation, however, the following section will consider the land use designations for the project site found in the City of Costa Mesa's General Plan (2000).

4.7.1 EXISTING ENVIRONMENTAL SETTING

Existing On-Site and Adjacent Land Uses

The OCFEC, under the jurisdiction of the 32nd DAA, is located on Fair Drive in the City of Costa Mesa. The original size of the site was approximately 163 acres, which included portions of Fairview Road, Fair Drive, and areas now occupied by the adjacent State Route 55 (SR-55). The complex presently occupies approximately 150 acres.

The OCFEC is bounded on the north by Arlington Drive, on the east by Newport Boulevard, on the south by Fair Drive, and on the west by Fairview Road. Regional access to the Fairgrounds is provided primarily via the SR-55 at interchanges at Fair Drive/Del Mar Avenue and 22nd Street/ Victoria Street. Access from the San Diego Freeway (I-405), which is located approximately one mile north of the Fairgrounds, is provided via interchanges at Fairview Road and Harbor Boulevard.

The OCFEC is a state-owned facility surrounded by a variety of educational facilities, parks, and low-density to high-density residential areas. Figure 4.7.1 is an aerial photograph showing the surrounding land uses in the immediate vicinity of the OCFEC. Orange Coast College is located to the northwest, Costa Mesa High School and Davis Elementary School are located to the north, and Vanguard University is located to the south. Single family residential areas are located northeast of Arlington Drive, north of TeWinkle Park. In addition, existing single/multiple family residences are located west of Fairview Road and south of SR-55. The Santa Ana Country Club golf course (private), Civic Center Park, and TeWinkle Park are recreation/open space facilities in the immediate surrounding area. The National Guard Armory is located near the northeast corner of the property. General commercial areas are located primarily along Harbor Boulevard to the west and southeast of SR-55.

Existing General Plan Designations and Zoning Designations

The 32nd DAA and the State of California are responsible for the type and intensity of land uses on the OCFEC. Although the OCFEC is exempt from municipal land use policies by virtue of it being owned by the State of California, the City of Costa Mesa's General Plan addresses the proposed project area.

LSA

N

Scale in Feet

0 300 600

SOURCE: Fuscoe Engineering

I:\Ccz030\G\Surrounding Land Uses 4.7.1.cdr (9/30/02)

FIGURE 4.7.1

Orange County Fair and Exposition Center
Surrounding Land Uses

Land use and zoning classifications establish land use intensity limits to ensure a balance of land uses throughout a given community. The land use designation for the proposed project site is "Fairgrounds" in recognition of the unique land uses associated with this 150-acre site.

The proposed project site is zoned for Institutional and Recreation land uses (I8R). This zoning designation places the OCFEC in the City's largest open space and recreation category. Institutional and Recreation districts differ from other recreational uses in that they often have institutional uses that may prevent use by the public at given times. The Open Space and Recreation Element states that those areas zoned for Institutional and Recreational uses "still provide the benefits of visual open space or relief from typical urban development patterns" even when ownership or use precludes use by the public (OSR-6).

Single Family Residential (R1) and Institutional and Recreational districts (I8R) are generally located around the perimeter of the property. As such, traffic-related impacts and land use compatibility are of particular concern to the City.

Figure 4.7.2 shows the General Plan land use designations in the area surrounding the Fairgrounds, while Figure 4.7.3 shows the zoning for the surrounding area.

Costa Mesa General Plan Goals and Objectives

As stated above, the OCFEC is exempt from municipal land use policies because it is owned by the State of California. Land uses regulations will be governed by the 32nd DAA Vision Statement contained in the 2002 Master Plan. The Vision Statement, however, acknowledges the City of Costa Mesa's General Plan and does not conflict with any municipal goals or objectives for the site. The major land use goals and related objectives and policies in the Costa Mesa General Plan apply to those geographic areas of the City governed by City laws and regulations. The following are those that would be most applicable to the proposed project if land use was controlled by the City:

- It is the goal of the City of Costa Mesa to establish policies that will create and maintain an aesthetically pleasing and functional environment and minimize impacts on existing physical and social resources (*Land Use Element, LU-44, Goal LU-2: Development*).
- Encourage new development and redevelopment to improve and maintain the quality of the environment (*Land Use Element, LU-44, Objective LU-2A*).
- It is the goal of the City of Costa Mesa to respond to the needs of its citizens for housing, public services, community facilities, and safety of persons and property, to the extent possible within budgetary constraints and when deemed appropriate for local governmental involvement (*Land Use Element, LU-45, Goal LU-3:Socio-Economic Considerations*).
- Ensure availability of adequate community facilities and provision of the highest level of public services possible, taking into consideration budgetary constraints and effects of the surrounding area (*Land Use Element, LU-45, Objective LU-3A*).

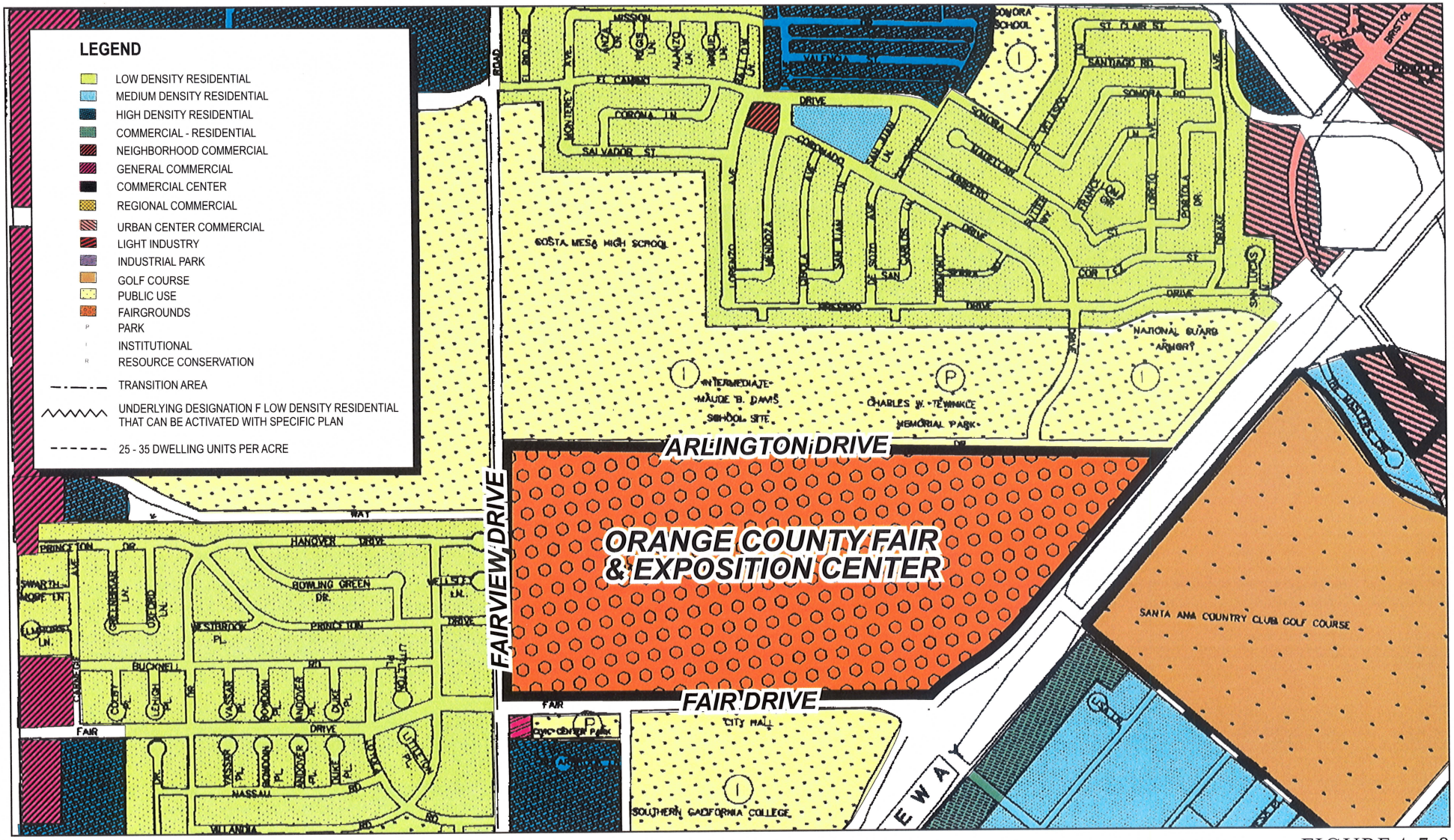


FIGURE 4.7.2

LSA

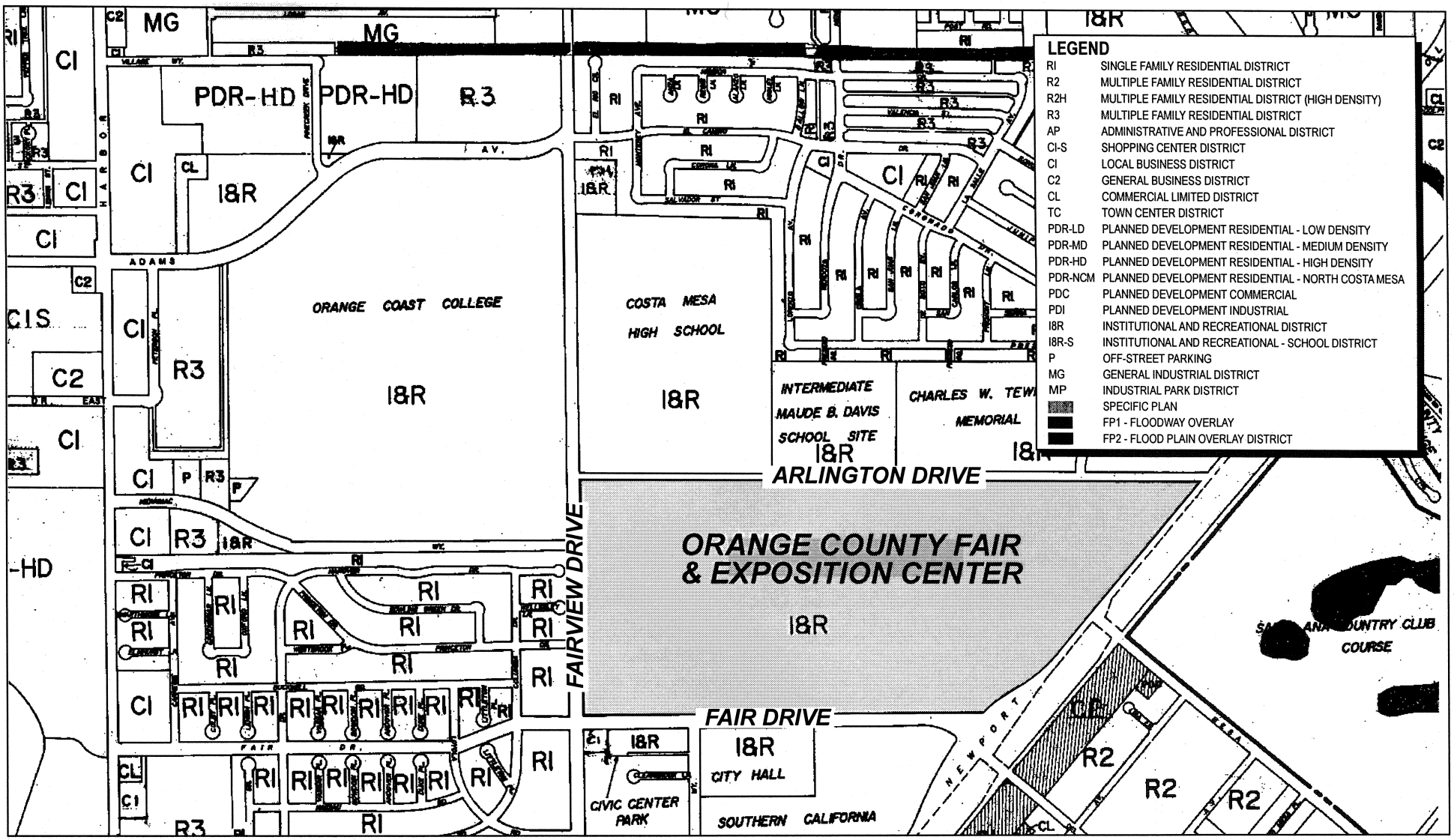
No Scale

SOURCE: City of Costa Mesa.

I:\Ccz030\G\land use map.cdr (9/30/02)

Orange County Fairgrounds

Land Use Map



L S A

FIGURE 4.7.3

N

No Scale

Orange County Fair and Exposition Center

Zoning Map

SOURCE: City of Costa Mesa.

I:\Ccz030\G\zoning map.cdr (9/30/02)

These goals and objectives are reiterated in the Community Design Element of the Costa Mesa General Plan, which identifies the OCFEC as a "Landmark." Landmarks are defined as those physical elements that provide a point of reference or serve as community identity markers. The following are those goals, objectives, and policies from the Community Design Element that are most applicable to the proposed project:

- Enhance the existing character and strengthen the identity of Costa Mesa's districts (*Community Design Element, CD-15, Goal CD-2: Districts*).
- Encourage development and redevelopment that reinforces district scale, identity, and urban form (*Community Design Element, CD-15, Objective CD-2).*
- Future development and redevelopment should improve the environment for the public (*Community Design Element, CD-15, Policy CD-2.1*).
- Protect City landmarks (Community Design Element, CD-17, Goal CD-4: Landmarks).
- Promote the maintenance, use, and improvement of the landmarks to enhance the visual image and identity of Costa Mesa (*Community Design Element, CD-17, Objective CD-4*).
- Support efforts to preserve, maintain, and improve the condition of Costa Mesa landmarks (*Community Design Element, CD-17, Policy CD-4.1*).

4.7.2 THRESHOLDS OF SIGNIFICANCE

The effects of a project on existing or planned land uses are considered to be significant if the proposed project results in one or more of the following conditions:

7-A Conflicts with General Plan land use designations or zoning designations

7-B Disrupts or divides the physical arrangement of an established community

7-C Creates substantial conflict with adjacent, existing, or planned land uses, including but not limited to substantial increases in noise and ambient air quality levels or degradation of the existing viewshed

7-D Converts Farmland listed as "Prime," "Unique," or of "Statewide Importance," as shown on the State Farmland Mapping and Monitoring Program, to nonagricultural use

7-E Involves other changes in the existing environment that, due to their location or nature, could result in conversion of farmland to nonagricultural use

4.7.3 PROJECT DESIGN FEATURES

PDF 7-1 **Uniform Building Code and Uniform Fire Code.** Project design will comply with all applicable Uniform Building and Uniform Fire Code requirements. This PDF will

be verified by the California Construction Authority prior to issuance of the Notice to Proceed.

PDF 7-2 **Safe Entrances.** Maintain safe points of ingress/egress to and from the surrounding street network. This PDF will be verified by the California Construction Authority prior to issuance of the Notice to Proceed.

PDF 7-3 **Landscape Perimeter.** The proposed Master Plan includes a landscape plan and guidelines that provide for landscaping throughout the site. As part of the Master Plan, landscaping improvements will provide visual relief to perimeter walls along the property line. This PDF will be verified by the California Construction Authority prior to issuance of the Notice to Proceed.

4.7.4 IMPACTS AND MITIGATION MEASURES

Land Use Compatibility

The project area has been used as a Fairgrounds for over 50 years. When the Fairgrounds was initially established on the project site, no other developed land uses existed nearby, with the exception of the Santa Ana County Club. Potential and actual land use incompatibility issues arose once the surrounding properties were developed with the aforementioned uses. The primary impacts of the proposed project on surrounding land uses will occur during the construction phase. The proposed project may have potentially adverse impacts involving noise, air quality, and traffic on adjacent residential land uses. These impacts, as well as feasible mitigation measures, are discussed in detail in the applicable sections of Chapter 4: Section 4.8, Noise; Section 4.2, Air Quality; and Section 4.12; Traffic and Circulation. These impacts are summarized below.

Noise. Noise generated by the project includes construction related noise, off-site noise associated with increased traffic, on-site noise from stationary sources such as air conditioning units, mobile sources such as truck deliveries and trash pickups, and noise from periodic uses such as Fair rides and amphitheater entertainment. Mitigation measures will be required in accordance with the County of Orange's Noise Ordinance to reduce noise impacts to below a level of significance.

Air Quality. Air Quality impacts relate to the increase in traffic (emissions from mobile sources) and emissions from construction activities while the project is being built. The project will result in significant short-term air quality impacts resulting from construction activities, including impacts from NO_X and fugitive dust (PM_{10}), and significant long-term air quality impacts due to emissions of CO, NO_X, and ROC generated by increased vehicle traffic under the Interim Event with Concert scenario. Mitigation measures will be required in accordance with South Coast Air Quality Management District rules to reduce impacts from fugitive dust and emissions from architectural coatings.

Traffic and Circulation. While the project will generate additional traffic on adjacent arterial streets, the additional traffic does not create any significant circulation impacts.

Although the City of Costa Mesa has only limited permitting authority for projects occurring at the OCFEC, the City of Costa Mesa's General Plan does provide both a land use designation and development standards for the project site. According to the General Plan, the land use designation "Fairgrounds" recognizes the unique land uses associated with the site.

Land uses and development standards for the proposed project site are to be governed by the Master Plan and Vision Statement adopted by the 32nd DAA. The site will continue to be consistent with "Fairgrounds" land uses. Moreover, the Master Plan approach ensures that proposed land uses within this designation are compatible with one another. There will be a distinct identity created for both the Village portion and the Park portion of the Fairgrounds. The creation of distinct activity centers with strong identities is a positive site planning approach that contributes to internal project consistency and an overall "master planned" appearance. After implementation of the proposed project, the OCFEC will be an integrated activity center with consistent design throughout.

In conclusion, the potential land use impacts are not considered to be significant overall because:

- The proposed project is consistent with both the General Plan and the Zoning Code for the City of Costa Mesa (Criterion 7-A).
- There is no direct division of an established community or physical taking of existing land uses by the proposed project (Criterion 7-B).
- The analysis of individual impacts indicates that there are few significant impacts that would create substantial conflicts with adjacent land uses (Criterion 7-C). Conflicts between the OCFEC and surrounding land uses exist at present and are not a result of the project analyzed in this EIR.
- The proposed project will not convert agricultural land to nonagricultural uses or involve other changes that could result in conversion of agricultural land to nonagricultural uses (Criteria 7-D and 7-E).

Phasing

Project phasing will not create any short-term or long-term land use impacts beyond those short-term construction impacts related to noise, air quality, and traffic specified above. No additional mitigation is necessary.

4.7.5 SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

The proposed project will result in improvements to an existing Fairgrounds facility. The proposed project does not represent a significant increase in building area or substantial changes to the historic

use of the site. The activity areas of the project site are "buffered" from the surrounding areas by the Fairgrounds parking lots. No significant impacts to land uses are anticipated; therefore, mitigation is not required. The proposed project will not result in any significant unavoidable adverse impacts to land use.

4.8 NOISE

The 32nd District Agricultural Association (DAA) is a State entity and therefore not normally subject to local ordinances and policies. However, the OCFEC has a significant history regarding noise issues, specifically pertaining to the Pacific Amphitheater (Amphitheater). This section synthesizes the various agreements, judicial orders, and litigation results in order to arrive at 1) a description of the existing setting; 2) determination of a threshold of significance; 3) potential impacts resulting from the proposed project; and 4) appropriate mitigation measure(s) to reduce potential impacts below levels of significance. Though not subject to local ordinances, the various agreements, orders, and litigation results refer to the County of Orange and City of Costa Mesa ordinances as points of reference. In summary, by observing the thresholds established by Case Numbers 42 07 28 and 55 65 08 (1990 Order), the proposed project will be generally consistent with the spirit, intent, and letter of these local ordinances.

This study discusses the current noise environment, evaluates short-term construction noise, assesses long-term noise effects from project related stationary and mobile sources, and identifies mitigation measures and their effectiveness. Finally, it is noted that the primary focus of this section (as with the rest of the environmental impact report) is the use of the facilities other than during the summer Fair.

4.8.1 EXISTING SETTING

Fundamentals of Noise

Noise Definition. Noise impacts can be described in three categories. The first category is audible impact that refers to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3.0 decibels (dB) or greater, because these levels have been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in noise levels between 1.0 and 3.0 dB. This range of noise levels has been found to be noticeable only in laboratory environments. The last category is changes in noise levels of less than 1.0 dB, which are inaudible to the human ear. Only audible changes in existing ambient or background noise levels are considered potentially significant. Therefore, a 3-dB increase in long-term noise levels is used as a threshold of significant change in this noise analysis. The decreases in noise levels due to distance divergence were also used to analyze the effects of construction noise associated with the proposed project.

Characteristics of Sound. Sound is increasing to such disagreeable levels in our environment that it can threaten quality of life. Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep. To the human ear, sound has two significant characteristics: pitch and loudness. Pitch is generally an annoyance, while loudness can affect the ability to hear. Pitch is the number of complete vibrations or cycles per second of a wave that result in the tone's range from

high to low. Loudness is the strength of a sound that describes a noisy or quiet environment and is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound waves combined with the reception characteristics of the human ear. Sound intensity refers to how hard the sound wave strikes an object, which in turn produces the sound's effect. This characteristic of sound can be precisely measured with instruments. The analysis of a project defines the noise environment of the project area in terms of sound intensity and its effect on adjacent sensitive land uses.

Measurement of Sound. Sound intensity is measured through the A-weighted scale (i.e., dBA) to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies. Unlike linear units, such as inches or pounds, decibels are measured on a logarithmic scale, representing points on a sharply rising curve.

For example, 10 decibels are 10 times more intense than 1 decibel, 20 decibels are 100 times more intense, and 30 decibels are 1,000 times more intense. Thirty decibels represent 1,000 times as much acoustic energy as one decibel. A sound as soft as human breathing is about 10 times greater than 0 decibel. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. A 10-decibel increase in sound level is perceived by the human ear as only doubling of the loudness of the sound. Ambient sounds generally range from 30 dBA (very quiet) to 100 dBA (very loud).

Sound levels are generated from a source, and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. For a single point source, sound levels decrease approximately six decibels for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by stationary equipment. If noise is produced by a line source such as highway traffic or railroad operations, the sound decreases three decibels for each doubling of distance in a hard site environment. Line source noise in a relatively flat environment with absorptive vegetation decreases four and one-half decibels for each doubling of distance.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. However, the predominant rating scales for human communities in the State of California are the Equivalent-Continuous sound level (L_{eq}) and Community Noise Equivalent (CNEL) based on A-weighted decibels (dBA). L_{eq} is the total sound energy of time-varying noise over a sample period. CNEL is the time-varying noise over a 24-hour period, with a weighting factor of 5 dBA applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and with a weighting factor of 10 dBA from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). The noise adjustments are added to the noise events occurring during the more sensitive hours. Day-night average noise (L_{dn}) is similar to the CNEL but without the adjustment for nighttime noise events. CNEL and L_{dn} are normally exchangeable and within 1 dB of each other. Other noise rating scales of importance when assessing annoyance factors include the maximum noise level, or L_{max}, and percentile noise exceedance levels, or L_N. L_{max} is the highest exponential-time-averaged sound level that occurs during a stated time period. It reflects peak operating conditions and addresses the annoying aspects of intermittent noise.

L_N is the noise level that is exceeded "N" percent of the time during a specified time period. For example, the L_{10} noise level represents the noise level exceeded 10 percent of the time during a stated period. The L_{50} noise level represents the median noise level. Half the time the noise level exceeds this level and half the time it is less than this level. The L_{90} noise level represents the noise level exceeded 90 percent of the time and is considered the lowest noise level experienced during a monitoring period. It is normally referred to as the background noise level.

In addition to loudness, duration is a factor in determining the annoyance factor of noise. Normally, a steady sound, such as the rush of a river or distant traffic noise, is less bothersome than a repetitive or impulsive noise such as individual aircraft flybys or hammering sounds. Thus, depending on the frequency of repetition, the CNEL value may not accurately reflect the perceived impact of the noise.

Table 4.8.A lists Definitions of Acoustical Terms, and Table 4.8.B shows Common Sound Levels and Their Sources.

Psychological and Physiological Effects of Noise. Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects the entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions and thereby affecting blood pressure, functions of the heart, and the nervous system. In comparison, extended periods of noise exposure above 90 dBA would result in permanent cell damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by the feeling of pain in the ear. This is called the threshold of pain. A sound level of 190 dBA will rupture the eardrum and permanently damage the inner ear. The ambient or background noise problem is widespread and generally more concentrated in urban areas than in outlying less-developed areas.

Sensitive Land Uses

Certain land uses are considered more sensitive to noise than others. Examples of these include residential areas, educational facilities, hospitals, child care facilities, and senior housing.

Sensitive land uses are located near the project site and are separated by roadways, which are themselves sources of noise. On the north side of the Fairgrounds, there are two educational facilities across Arlington Road (Davis Junior High School and Costa Mesa High School), which are designated as Public Institutional (I&R, I&R-S) in the Costa Mesa General Plan. Vanguard University (Public Institutional I&R, I&R-S) is directly across from the parking lot of the Fairgrounds on the south side. The nearest residential areas are approximately 100 feet to the west, across Fairview; approximately 975 feet to the north, beyond TeWinkle Park; and approximately 700 feet to the south, across Fair Drive.

Table 4.8.A: Definitions of Acoustical Terms

Term	Definitions
Decibel, dB	A unit of sound level that denotes the ratio between two quantities that are proportional to power; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
Frequency, Hz	Of a function periodic in time, the number of times that the quantity repeats itself in one second (i.e., number of cycles per second).
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. 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. All sound levels in this report are A-weighted, unless reported otherwise.
L_{01}, L_{10}, L_{50}, L_{90}	The fast A-weighted noise levels that are equaled or exceeded by a fluctuating sound level 1 percent, 10 percent, 50 percent, and 90 percent of a stated time period.
Equivalent Continuous Noise Level, L_{eq}	The level of a steady sound that, in a stated time period and at a stated location, has the same A-weighted sound energy as the time varying sound.
Community Noise Equivalent Level, CNEL	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 5 decibels to sound levels occurring in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
Day/Night Noise Level, L_{dn}	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of ten decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
L_{max}, L_{min}	The maximum and minimum A-weighted sound levels measured on a sound level meter, during a designated time interval, using fast time averaging.
Ambient Noise Level	The all-encompassing noise associated with a given environment at a specified time, usually a composite of sound from many sources at many directions, near and far; no particular sound is dominant.
Intrusive	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Handbook of Acoustical Measurements and Noise Control 1991.

Table 4.8.B: Common Sound Levels and Their Noise Sources

Noise Source	A-Weighted Sound Level in Decibels	Noise Environments	Subjective Evaluations
Near Jet Engine	140	Deafening	128 times as loud
Civil Defense Siren	130	Threshold of Pain	64 times as loud
Hard Rock Band	120	Threshold of Feeling	32 times as loud
Accelerating Motorcycle at a Few Feet Away	110	Very Loud	16 time as loud
Pile Driver; Noisy Urban Street/Heavy City Traffic	100	Very Loud	8 times as loud
Ambulance Siren; Food Blender	95	Very Loud	
Garbage Disposal	90	Very Loud	4 times as loud
Freight Cars; Living Room Music	85	Moderately Loud	
Pneumatic Drill; Vacuum Cleaner	80	Moderately Loud	2 times as loud
Busy Restaurant	75	Moderately Loud	
Near Freeway Auto Traffic	70	Moderately Loud	
Average Office	60	Quiet	½ times as loud
Suburban Street	55	Quiet	
Light Traffic; Soft Radio Music in Apartment	50	Quiet	¼ times as loud
Large Transformer	45	Quiet	
Average Residence without Stereo Playing	40	Faint	⅛ times as loud
Soft Whisper	30	Faint	
Rustling Leaves	20	Very Faint	
Human Breathing	10	Very Faint	Threshold of Hearing
	0	Very Faint	

Source: Compiled by LSA Associates, Inc. 1998.

Background

The 32nd DAA is a State Agency, and therefore is not normally subject to local ordinances. However, noise issues have characterized the recent history of the 32nd DAA, specifically regarding the Amphitheater. The following paragraphs briefly describe these issues with the intent of developing an appropriate point of reference for assessing potential noise impacts and recommending any necessary mitigation measures in relationship to the proposed project.

1980 Settlement Agreement. In 1980, the 32nd DAA entered into an agreement with the City of Costa Mesa related to the implementation of the proposed 1977 Master Plan. This agreement, among other things, established guidelines (including sound standards) and actions to be taken by the 32nd DAA in implementing the 1977 Master Plan. Specifically regarding noise, this agreement referred to the Orange County Noise Code standards with amendments (effective at that time).

1990 Order (Cases Number 42 07 28 and 55 65 08). In 1990, a permanent injunction (1990 Order) was entered against the former operators of the Amphitheater, Ned West, Inc., the Amphitheater Partnership, and various other Nederlander-affiliated persons and entities. The 1990 Order provides "that the Ned West defendants" and any and all successors in interest, including the OCFEC, shall be subject to certain sound limits as measured at 947 Serra Way, Costa Mesa, California.

The following was issued by the court associated with Case Nos. 42 07 28 and 55 65 08:

> The Ned West defendants, operators of the Pacific Amphitheater, and any and all successors in interest, including the 32nd District Agricultural Association, are ordered to refrain from permitting sound emanating from the Pacific Amphitheater to impact plaintiff Lusk's property located at 947 Serra Way, Costa Mesa, California, in a manner inconsistent with the following stair/step sound level standards (listed in Table 4.8.C):

Table 4.8.C: Case Nos. 42 07 28 and 55 65 08

Sound Level	Time Period	Days of Week
55 dBA	7:00 a.m. to 10:30 p.m.	Sunday–Thursday
50 dBA	10:30 p.m. to 7:00 a.m.	Sunday–Thursday
55 dBA	7:00 a.m. to 11:00 p.m.	Friday–Saturday
50 dBA	11:00 p.m. to 7:00 a.m.	Friday–Saturday

The sound levels shall not exceed:

(1) The sound standard for a cumulative period of more than thirty (30) minutes in any hour; or

(2) The sound standard plus five (5) dBA for a cumulative period of more than fifteen (15) minutes in any hour; or

(3) The sound standard plus ten (10) dBA for a cumulative period of more than five (5) minutes in any hour; or

(4) The sound standard plus fifteen (15) dBA for a cumulative period of more than one (1) minute in any hour; or

(5) The sound standard plus twenty (20) dBA for any period of time.

In the event the ambient sound level exceeds any of the first four (4) sound limit categories above, the cumulative period applicable to said category shall be increased to reflect said ambient sound level. In the event the ambient sound level exceeds the fifth sound level limit category, the maximum allowable sound level under said category shall be increased to reflect the maximum ambient sound level.

No 5 dBA penalty for music or speech shall apply to the Amphitheater.

It should noted that this judgement stated the following:

> The court has determined that the Orange County Noise Ordinance is not applicable to the Pacific Amphitheater as a matter of law (see Court of Appeal decision in *Ned West v. City of Costa Mesa*, Case No. 437733).

1993 Contract of Sale. In 1993, the OCFEC purchased the remaining years of the Amphitheater lease from the Nederlanders. The contract of sale provided that to monitor compliance with the 1980 Agreement, the sellers could enforce a sound restriction ("Sound Covenant") against future events at the Amphitheater venue. The Sound Covenant was 92 dBA absolute maximum at the mix board and 86 dBA L_{eq} as measured for 10 minutes at the top of the berm. The OCFEC soon discovered that this Sound Covenant was far more restrictive than represented, that the two numbers contained in the Sound Covenant were not correlated, and that virtually all events, including an Easter Prayer Vigil, would violate the Sound Covenant. Certain Nederlander Defendants then assigned this Sound Covenant to certain neighbors in violation of the parties' agreement.

On October 27, 1995, the 32nd DAA sued the Pacific Amphitheater Partnership and various other Nederlander-affiliated persons and entities ("Nederlander Defendants"). The 32nd DAA alleged that the Sound Covenant was fraudulently induced; that the Sound Covenant was an illegal restraint on free trade designed to promote the Nederlander Defendants' interests in other, competing venues in Southern California; and that the assignment of the Sound Covenant to these neighbors violated the parties' agreement and was invalid. That lawsuit is titled *32nd District Agricultural Association v. James M. Nederlander, et al.*, Case No. 754881 (Superior Court of Orange County, the Honorable Robert E. Thomas presiding) (lawsuit). The neighbors intervened in the lawsuit (intervenors).

The lawsuit went to trial and on June 8, 1998, just after a verdict was returned but before it was read, the Nederlander Defendants settled certain monetary aspects of the 32nd DAA's claims. As part of

the settlement, the Nederlander Defendants agreed to waive any right to enforce the Sound Covenant, including the 86 dBA L_{eq} limit, if Judge Thomas subsequently ruled that 1) the 92 dBA portion of the Sound Covenant was invalid, and 2) the assignment to the Intervenors was invalid. Judge Thomas issued a written Statement of Decision and Judgement in which he made those two predicate findings ruling that 1) the Sound Covenant, which included the 92 dBA limit, was induced by fraud, constituted an illegal restraint on trade in violation of California antitrust laws, and was invalid, and 2) the assignment of the Sound Covenant to the neighbors violated the parties' agreement and was invalid. A copy of Judge Thomas's Statement of Decision and Judgement can be found in Appendix E.

Soon after the substance of that decision was announced (which satisfied the two predicates to waive any right to enforce the Sound Covenant) the Nederlander Defendants stated that they would not honor that settlement agreement. They claimed that they had not waived enforcement of the Sound Covenant, including the 86 dBA L_{eq} limit, but had only agreed to waive enforcement of the 92 dBA limit within the Sound Covenant. In short, the Nederlander Defendants claimed that they had "agreed" that if the 92 dBA limit were held to be invalid, they would "agree" not to attempt to enforce that invalid limit. Judge Thomas rejected the Nederlander Defendants' contention and issued another Decision confirming that the Nederlander Defendants had waived enforcement of the entire Sound Covenant, including the 86 dBA limit. Judge Thomas ruled that: "The two predicate findings have been made. The agreement may not be rewritten. The transcript referred to enforcement of the sound covenant not just the 92 dB(A) Max." A copy of Judge Thomas's second Decision and Judgement can be found in Appendix E.

The Nederlander Defendants then appealed that Decision to the California Court of Appeal. On March 22, 2002, the California Court of Appeals issued a unanimous 18-page Opinion rejecting the Nederlander Defendants' contention, affirming Judge Thomas's Decision, and ruling that the Nederlander Defendants had waived any right to enforce the Sound Covenant including the 86 L_{eq}/dBA limit. A copy of the California Court of Appeal's Opinion is found in Appendix E.

Therefore, it appears that the most tangible point of reference for determining appropriate noise levels, potential impacts, and recommending any necessary mitigation measures is the 1990 Order (Case Nos. 42 07 28 and 55 65 08). Figure 4.8.1 indicates the location of 947 Serra Way in relation to the OCFEC and the Amphitheater. The OCFEC also has committed to abide by the 86 L_{eq} at the top of the berm limitation in the Sound Covenant for so long as the berm remains in place, although the Nederlander Defendants have waived their right to enforce it, and, as described herein, the OCFEC plans to significantly downsize the Amphitheater.

For comparison purposes, application of the 1990 Order would result in a noise level standard of approximately 58 dBA (between 7 a.m. and 10:30 p.m. for Sunday through Thursday and between 7 a.m. and 11 p.m. for Friday and Saturday) at the nearest residence (to the Fairgrounds) within the same neighborhood as the Serra Way home. It was previously noted that the human ear cannot detect a change in noise if the change is 3dBA or less. Therefore, assuming compliance with the 1990 Order, the noise level at the nearest residence in this neighborhood would be exposed to noise levels emanating from the Fairgrounds that are representative of noise regulations contained within the City of Costa Mesa and County of Orange Noise Ordinance.

Figure 4.8.1: Noise Injunction (Case Numbers 420728 and 556508)

Overview of the Existing Noise Environment

The project site is located within an urban setting with a variety of noise sources. The OCFEC is surrounded by major roads and freeways, causing vehicular traffic to be a major source of noise. The project site is bounded on the north by Arlington Drive, on the east by Newport Boulevard, on the south by Fair Drive, and on the west by Fairview Road. The Costa Mesa Freeway (SR-55) runs parallel to Newport Boulevard and is a major contributor to the noise level. In addition to traffic, aircraft noise is also an issue. The project site is located 3.1 miles from John Wayne Airport, and although it is located outside the 60 dBA CNEL contour, a departing aircraft can be heard.

Another source of noise for the project site is the police and fire department facilities located across the street from the project site on Fair Drive. The Costa Mesa Police Department maintains three helicopters for aerial surveillance. The helipad is located at the Civic Center on Fair Drive. Under normal circumstances, only one helicopter is in the air at a given time. Hours of operation are between 11:00 a.m. and 3:00 a.m. Depending on altitude and speed, noise levels generated by the craft under normal conditions range from 68 to 82 dBA L_{max}. These levels are exceeded upon landing and taking off from the Civic Center helipad for refueling and in rare instances when landing or when extremely low altitudes are required elsewhere in the City. Three additional heliports are located in north Costa Mesa at the following locations:

- 1375 Sunflower Avenue
- 555 Anton Boulevard
- 3000 Airway Avenue

Ambient Noise Measurements. For this analysis, noise measurements were recorded at different locations in and around the Orange County Fair and Exposition Center (OCFEC). Figure 4.8.2 depicts the location of the noise measurements taken. Three noise measurements were taken on two different days using a Larson-Davis Model 720 precision integrating sound level meter. The first two measurements were taken on a weekday, once in the morning and once in the early evening, during peak traffic hours (9:00 a.m.–11:00 a.m. and 3:00 p.m.–5:00 p.m.). The third measurement was taken on a Saturday in order to record noise measurements during the busiest hours at the OCFEC directly related to the operation of the Orange County Marketplace (swap meet).

Table 4.8.D shows the results of the analysis for the weekday a.m. time period. Table 4.8.E shows the results for the weekday p.m. time period. Table 4.8.F shows the results for the weekend a.m. time period. The highest L_{eq} recorded was 73.9 dBA at 10:55 a.m. on a weekday at the intersection of Fairview Drive and Arlington Road. The L_{eq} along Fairview Drive and Arlington Road ranged from 61.6 to 73.9 dBA. The main source of the noise seems to have been traffic; however, planes and helicopters overhead as well as pedestrians added to the noise level.

Existing Traffic Noise Modeling. Traffic on streets adjacent to the project site is the dominant source contributing to the area ambient noise levels. Noise from motor vehicles is generated by

Figure 4.8.2: Noise Monitoring Locations Map

Table 4.8.D: Orange County Fair and Exposition Center Weekday A.M. Noise Measurements

Location	Start Time (Duration)	L_{eq} (dBA)	L_{max}	Noise Sources	Remarks
1. Corner of Newport Boulevard and Fair Drive	9:25 a.m. (15 minutes) April 25, 2001	71	82.6	Traffic on Newport Boulevard and Fair Drive. Traffic on SR-55. Wind blowing. Planes overhead.	Meter is facing the intersection, approximately 15 feet from the street. Meter is located on the NW corner, facing SE. Wind velocity is 10–15 mph.
2. Newport Boulevard at eastern entrance to Fairgrounds	9:48 a.m. (15 minutes) April 25, 2001	71.9	90	Traffic on Newport Boulevard. Occasional vehicle coming down Mesa Drive. Traffic on SR-55. Wind blowing. Birds overhead. Planes overhead.	Meter is located on northern side of entrance facing east (facing Newport Boulevard). Meter is approximately 15 feet from the street. Wind velocity is 10–15 mph.
3. Corner of Fair Drive and Vanguard Street, at entrance to Fairgrounds (south entrance)	9:55 a.m. (15 minutes) April 25, 2001	71	80	Traffic on Fair Drive. Occasional vehicle on Vanguard. Wind blowing. Helicopter overhead (brief).	Meter is positioned on the east side of Vanguard at the Fairgrounds entrance, facing south (facing Fair Drive). Wind velocity is 10–15 mph.
4. East side of Fairview Drive; Princeton Street is located approx. 75 feet to the southwest	10:23 a.m. (15 minutes) April 25, 2001	70.2	87.8	Traffic on Fairview Drive. Wind blowing. Birds overhead. Planes overhead.	Meter is facing west, approximately 10 feet from the street. Wind velocity is 10–15 mph.
5. Intersection of Fairview Drive and Arlington Road	10:55 a.m. (15 minutes) April 25, 2001	73.9	87	Traffic on Fairview Drive and Arlington Road. Planes overhead. Wind blowing. Helicopter overhead. Pedestrians.	Meter is located at SE side of intersection, facing NW (facing intersection). Wind velocity is 10–15 mph.
6. South side of Arlington Road	11:25 a.m. (15 minutes) April 25, 2001	62.9	75.4	Traffic on Arlington Road. Pedestrians at park located NE of meter. Birds overhead. Wind blowing. Planes overhead.	Meter is facing north (at baseball fields located across the road). Meter is approximately 15 feet from the road. Wind velocity is 10–15 mph.

Source: LSA Associates, Inc., April 2002.

Table 4.8.E: Orange County Fair and Exposition Center Weekday P.M. Noise Measurements

Location	Start Time (Duration)	L_{eq} (dBA)	L_{max}	Noise Sources	Remarks
1. Corner of Newport Boulevard and Fair Drive	3:00 p.m. (15 minutes) April 25, 2001	71.7	84	Traffic on Newport Boulevard and Fair Drive. Traffic on SR-55. Sirens off to the east (brief). Wind blowing. Planes overhead.	Meter is facing the intersection, approximately 15 feet from the street. Meter is located on the NW corner, facing SE. Wind velocity is 10–15 mph.
2. Newport Boulevard at eastern entrance to Fairgrounds	3:22 p.m. (15 minutes) April 25, 2001	71.5	85.2	Traffic on Newport Boulevard. Light traffic on Mesa Drive. Traffic on SR-55. Sirens to the south. Planes overhead. Bicyclists coming by. Wind blowing.	Meter is located on northern side of entrance facing east (facing Newport Boulevard). Meter is approximately 15 feet from the street. Wind velocity is 10–15 mph.
3. Corner of Fair Drive and Vanguard Street, at entrance to Fairgrounds (south entrance)	3:45 p.m. (15 minutes) April 25, 2001	71.9	84.9	Traffic on Fair Drive. Light traffic on Vanguard Street. Planes overhead. Wind blowing.	Meter is positioned on the east side of Vanguard at the Fairgrounds entrance, facing south (facing Fair Drive). Wind velocity is 10–15 mph.
4. East side of Fairview Drive; Princeton Street is located approx. 75 feet to the southwest	4:10 p.m. (15 minutes) April 25, 2001	69	81.3	Traffic on Fairview Drive. Wind blowing. Kids playing/screaming to the southwest. Planes overhead.	Meter is facing west approximately 10 feet from the street. Wind velocity is 10–15 mph.
5. Intersection of Fairview Drive and Arlington Road	4:35 p.m. (15 minutes) April 25, 2001	68	83.1	Traffic on Fairview Drive and Arlington Road. Birds overhead. Planes overhead. Wind blowing.	Meter is located at SE side of intersection, facing NW (facing intersection). Wind velocity is 10–15 mph.
6. South side of Arlington Road	5:00 p.m. (15 minutes) April 25, 2001	65.2	76	Traffic on Arlington Road (moderate). Baseball game on north side of Arlington Road. Planes overhead. Birds overhead. Wind blowing.	Meter is facing north (at baseball fields located across the road). Meter is approximately 15 feet from the road. Wind velocity is 10–15 mph.

Source: LSA Associates, Inc., April 2002.

Table 4.8.F: Orange County Fair and Exposition Center Weekend A.M. Noise Measurements

Location	Start Time (Duration)	L_{eq} (dBA)	L_{max}	Noise Sources	Remarks
1. Corner of Newport Boulevard and Fair Drive	8:00 a.m. (15 minutes) April 28, 2001	69.7	80	Traffic on Newport Boulevard and Fair Drive. Crowd noise at the marketplace. Wind blowing	Meter is facing the intersection, approximately 15 feet from the street. Meter is located on the NW corner, facing SE. Wind velocity is 5–10 mph.
2. Newport Boulevard at eastern entrance to Fairgrounds	8:20 a.m. (15 minutes) April 28, 2001	69.7	79.2	Traffic on Newport Boulevard. Traffic from vehicles entering and leaving the marketplace. Planes overhead. Light traffic on Mesa Drive. Wind blowing. Crowd noise at marketplace.	Meter is located on northern side of entrance facing east (facing Newport Boulevard). Meter is approximately 15 feet from the street. Wind velocity is 5–10 mph.
3. Corner of Fair Drive and Vanguard Street, at entrance to Fairgrounds (south entrance)	8:50 a.m. (15 minutes) April 28, 2001	72.2	80.7	Traffic on Fair Drive. Traffic entering and leaving marketplace. Light traffic on Vanguard. Planes overhead.	Meter is positioned on the east side of Vanguard at the Fairgrounds entrance, facing south (facing Fair Drive). Wind velocity is 5–10 mph.
4. East side of Fairview Drive; Princeton Street is located approx. 75 feet to the southwest	9:15 a.m. (15 minutes) April 28, 2001	68.1	82.1	Traffic on Fairview. Occasional vehicle leaving marketplace. Birds overhead. Wind blowing.	Meter is facing west, approximately 10 feet from the street. Wind velocity is 0–5 mph.
5. Intersection of Fairview Drive and Arlington Road	9:45 a.m. (15 minutes) April 28, 2001	68.3	79.7	Traffic on Fairview Drive and Arlington Road. Birds overhead. Car wash on NE corner of intersection. Planes overhead.	Meter is located at SE side of intersection, facing NW (facing intersection). Wind velocity is 0–5 mph.
6. South side of Arlington Road	10:20 a.m. (15 minutes) April 28, 2001	61.6	76.8	Traffic on Arlington Road. Crowd noise from marketplace. Planes overhead. Birds overhead. Adult softball game on north side of Arlington Road.	Meter is facing north (at baseball fields located across the road). Meter is approximately 15 feet from the road. Wind velocity is 0–5 mph.

Source: LSA Associates, Inc., April 2002.

engine vibrations, the interaction between the tires and the road, and the exhaust system. The following briefly describes the existing noise environment from traffic in the vicinity of the project site.

The traffic impact analysis prepared for the proposed project (LSA Associates, Inc., November 2002) provided afternoon peak hour vehicle trips generated on the project site. Based on the project trip distribution in the project vicinity, the project's contribution to average daily traffic (ADT) volumes along the roadway segments in the project vicinity were calculated for each impacted segment. The FHWA highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate highway traffic related noise conditions in the vicinity of the project site. The existing (year 2002) baseline conditions traffic noise impact analyses were conducted for three operations scenarios: Typical Weekend, Interim Event, and Fair Event. Traffic noise levels under these three operations scenarios are listed in Tables 4.8.G through 4.8.I. It should be noted that without the Master Plan update project, no concert would occur. Therefore, there is no Interim Event with Concert scenario without the Master Plan. The resultant noise levels are weighted and summed over 24-hour periods to determine the CNEL values.

Table 4.8.G lists the existing traffic noise under the Typical Weekend scenario, which includes traffic trips for the swap meet on weekends. Existing traffic noise in the project vicinity under this scenario is generally moderate to high, with the 65 dBA CNEL contours extending beyond the roadway right-of-way along most roadway segments analyzed, except along Newport Boulevard (North) between Bristol Street and Fair Drive.

Table 4.8.H lists the existing traffic noise under the Interim Event scenario. Similar to the Typical Weekend scenario, existing traffic noise in the project vicinity under this scenario is generally moderate to high, with the 65 dBA CNEL contours extending beyond the roadway right-of-way along most roadway segments analyzed, except along Newport Boulevard (North) between Bristol Street and Fair Drive.

Table 4.8.I lists the existing traffic noise under the Fair Event scenario. Similar to the Typical Weekend and Interim Event scenarios, existing traffic noise in the project vicinity under this scenario is generally moderate to high, with the 65 dBA CNEL contours extending beyond the roadway right-of-way along most roadway segments analyzed, except along Newport Boulevard (North) between Mesa Drive and Fair Drive.

Orange County Fair Concert Noise Measurements. Noise measurements were conducted for several concerts held on the project site during the 2002 Orange County Fair. Noise levels at five locations were measured for each concert. The noise levels measured for each concert at five locations were then averaged to determine the average noise level for concerts with similar music. Table 4.8.J lists the measured noise levels. It should be noted that among the five measurement locations at the LATimes.com (formerly Arlington) Theater, noise levels measured at the top of the stands, approximately 250 feet from the stage/speakers and approximately 125 feet from the soundboard (at which the speakers were directed), were on average 8 to 10 dBA lower than those measured at or near the soundboard. Therefore, it is reasonable to assign the measured average noise

Table 4.8.G: Existing Typical Event Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 Feet from Outermost Lane
Fair Drive					
Between Harbor and Fairview	10,032	< 50[1]	78	162	65.4
Between Fairview and Vanguard	18,583	57	115	243	68.1
Between Vanguard and Newport Blvd.	22,007	63	128	271	68.8
Between Newport Blvd. and Orange	10,060	< 50	75	161	66.9
Between Orange and Santa Ana	6,197	< 50	54	117	64.8
Fairview Road					
Between I-405 and Baker	39,775	109	225	479	71.8
Between Baker and Adams	41,854	113	232	496	72.0
Between Adams and Arlington	27,503	88	177	376	70.2
Between Arlington and Fair	25,890	85	171	361	69.9
Between Fair and Wilson	12,697	< 50	110	226	66.9
Between Wilson and Newport Blvd.	9,937	< 50	91	191	66.5
Newport Blvd. (North)					
Between Bristol and Mesa	6,632	< 50	< 50	102	62.8
Between Mesa and Fair	5,523	< 50	< 50	90	62.0
Between Fair and Vanguard	11,557	< 50	70	146	65.2
Between Vanguard and Fairview	9,990	< 50	64	133	64.5
Newport Blvd. (South)					
Between Bristol and Mesa	25,927	54	116	249	69.8
Between Mesa and Fair	22,575	< 50	105	227	69.2
Between Fair and Vanguard	9,385	< 50	59	126	65.3
Between Vanguard and Fairview	7,538	< 50	51	109	64.4
Harbor Blvd.					
Between Wilson and Fair	43,751	116	239	511	72.2
Between Fair and Adams	43,028	114	237	505	72.2
Between Adams and Baker	49,230	128	260	553	72.1

Source: LSA Associates, Inc., November 2002.

[1] Traffic noise within 50 feet of roadway centerline requires site specific analysis.

Table 4.8.H: Existing Interim Event Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 Feet from Outermost Lane
Fair Drive					
Between Harbor and Fairview	10,319	< 50[1]	80	165	65.5
Between Fairview and Vanguard	20,419	60	122	258	68.5
Between Vanguard and Newport Blvd.	22,786	64	131	278	69.0
Between Newport Blvd. and Orange	9,221	< 50	71	152	66.5
Between Orange and Santa Ana	6,165	< 50	54	116	64.8
Fairview Road					
Between I-405 and Baker	40,065	110	226	482	71.8
Between Baker and Adams	40,696	111	228	487	71.9
Between Adams and Arlington	30,125	93	188	399	70.6
Between Arlington and Fair	26,770	87	174	369	70.1
Between Fair and Wilson	12,473	< 50	109	224	66.8
Between Wilson and Newport Blvd.	10,009	< 50	92	192	66.5
Newport Blvd. (North)					
Between Bristol and Mesa	6,834	< 50	< 50	104	62.9
Between Mesa and Fair	5,681	< 50	<50	92	62.1
Between Fair and Vanguard	11,487	< 50	69	145	65.1
Between Vanguard and Fairview	10,173	<50	64	134	64.6
Newport Blvd. (South)					
Between Bristol and Mesa	27,986	57	122	262	70.1
Between Mesa and Fair	22,808	< 50	106	228	69.2
Between Fair and Vanguard	10,361	< 50	63	135	65.8
Between Vanguard and Fairview	7,973	< 50	53	113	64.6
Harbor Blvd.					
Between Wilson and Fair	43,761	116	239	511	72.2
Between Fair and Adams	43,450	115	238	508	72.2
Between Adams and Baker	51,358	131	267	568	72.3

Source: LSA Associates, Inc., November 2002.

[1] Traffic noise within 50 feet of roadway centerline requires site specific analysis.

Table 4.8.I: Existing Fair Event Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 feet from Outermost Lane
Fair Drive					
Between Harbor and Fairview	10,268	< 50[1]	79	164	65.5
Between Fairview and Vanguard	26,136	70	143	304	69.6
Between Vanguard and Newport Blvd.	24,031	66	135	288	69.2
Between Newport Blvd. and Orange	10,976	< 50	79	171	67.3
Between Orange and Santa Ana	9,409	< 50	72	154	66.6
Fairview Road					
Between I-405 and Baker	46,626	120	249	533	72.5
Between Baker and Adams	44,348	117	241	515	72.3
Between Adams and Arlington	32,930	98	199	423	71.0
Between Arlington and Fair	29,857	92	187	397	70.6
Between Fair and Wilson	13,561	62	114	236	67.1
Between Wilson and Newport Blvd.	10,763	< 50	96	202	66.9
Newport Blvd. (North)					
Between Bristol and Mesa	8,258	< 50	57	117	63.7
Between Mesa and Fair	5,664	< 50	< 50	92	62.1
Between Fair and Vanguard	12,128	< 50	72	151	65.4
Between Vanguard and Fairview	10,391	< 50	65	136	64.7
Newport Blvd. (South)					
Between Bristol and Mesa	28,702	58	124	266	70.2
Between Mesa and Fair	20,761	< 50	100	215	68.8
Between Fair and Vanguard	10,202	< 50	62	134	65.7
Between Vanguard and Fairview	7,848	< 50	52	112	64.6
Harbor Blvd.					
Between Wilson and Fair	43,967	116	240	512	72.2
Between Fair and Adams	49,479	125	259	554	72.8
Between Adams and Baker	55,677	138	282	600	72.7

Source: LSA Associates, Inc., November 2002.

[1] Traffic noise within 50 feet of roadway centerline requires site specific analysis.

Table 4.8.J: Orange County Fair Concert Noise

Event	Site	Date	L_{eq}, dBA	L_{max}, dBA
Martina McBride	L. A. Times Theater[1]	July 15, 2002	93.8	103.8
B-52s	L. A. Times Theater	July 18, 2002	94.2	101.1
Eric Sardinas	Grandstand Arena[2]	July 20, 2002	93.2	101.1
John Hammond	Grandstand Arena[3]	July 20, 2002	91.8	100.2
Lynyrd Skynyrd	L. A. Times Theater	July 28, 2002	96.9	103.1
Event Average			94.0	101.9

Source: LSA Associates, Inc., July 2002.

1 Noise measured at soundboard, top of stands, right of stage in front of box seats, bottom of stands near left rear exit, and bottom of stands near right rear exit.

2 Noise measured at top of stands left of stage, center of stands under cover opposite stage, back right corner of floor, right side of stage near speakers, and center of floor area.

3 Noise measured at center of floor area, left of center on floor area, in front of stage, right of center on floor area, and left of sound booth.

levels (both L_{eq} and L_{max}) at a distance of 200 feet from the stage/speakers in front of the speakers. For areas on the two sides of the stage/speakers, the noise levels would be 4 to 6 dBA lower than the average noise levels presented. For areas behind the stage/speakers, it is reasonable to assume that concert noise would be 8 to 10 dBA lower than the average noise levels presented.

The following lists the potential worst-case noise levels from future concerts at 200 feet from the stage/speakers:

- In areas in front of the stage/speakers, 94 dBA L_{eq} and 102 dBA L_{max}
- In areas on both sides of the stage/speakers, 90 dBA L_{eq} and 98 dBA L_{max}
- In areas on the back of the stage/speakers, 86 dBA L_{eq} and 94 dBA L_{max}

4.8.2 THRESHOLDS OF SIGNIFICANCE

A project will normally have a significant effect on the environment related to noise if it will substantially increase the ambient noise levels for adjoining areas or if it conflicts with adopted environmental plans and goals of the community where it is located. As previously mentioned, the OCFEC, as a State owned property, would not normally be subject to County or City noise ordinances, and the most tangible point of reference for determining appropriate noise levels and potential impacts and for recommending any necessary mitigation measures is the 1990 Order (Case Nos. 42 07 28 and 55 65 08) with the associated adjustments.

Below are the standards established by the 1990 Order.

Sound Level	Time Period	Days of Week
55 dBA	7:00 a.m. to 10:30 p.m.	Sunday–Thursday
50 dBA	10:30 p.m. to 7:00 a.m.	Sunday–Thursday
55 dBA	7:00 a.m. to 11:00 p.m.	Friday–Saturday
50 dBA	11:00 p.m. to 7:00 a.m.	Friday–Saturday

The sound levels shall not exceed:

(1) The sound standard for a cumulative period of more than thirty (30) minutes in any hour; or

(2) The sound standard plus five (5) dBA for a cumulative period of more than fifteen (15) minutes in any hour; or

(3) The sound standard plus ten (10) dBA for a cumulative period of more than five (5) minutes in any hour; or

(4) The sound standard plus fifteen (15) dBA for a cumulative period of more than one (1) minute in any hour; or

(5) The sound standard plus twenty (20) dBA for any period of time.

In the event the ambient sound level exceeds any of the first four (4) sound limit categories above, the cumulative period applicable to said category shall be increased to reflect said ambient sound level. In the event the ambient sound level exceeds the fifth sound level limit category, the maximum allowable sound level under said category shall be increased to reflect the maximum ambient sound level.

No 5 dBA penalty for music or speech shall apply to the Amphitheater.

4.8.3 PROJECT DESIGN FEATURES

There are no Project Design Features for noise identified in this EIR.

4.8.4 IMPACTS AND MITIGATION

Implementation of the proposed project would result in short-term construction and long-term traffic noise impacts. The following focuses on the increase in noise associated with the construction of the proposed project and the traffic in the project area.

Construction Activities

Two types of short-term noise impacts would occur during project construction. The first is the increase in traffic flow on local streets, associated with the transport of workers, equipment, and materials to and from the project site. The pieces of heavy equipment for grading and construction will be moved to the site and will remain for the duration of each construction phase. The increase in traffic flow on the surrounding roads due to construction traffic is expected to be small. The associated increase in long-term traffic noise will not be perceptible; however, there will be short-term intermittent high noise levels associated with construction trucks from the project site.

The second type of short-term noise impact is related to the noise generated by heavy equipment operating on the project site. Construction is performed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the site and, therefore, the noise levels surrounding the site as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction related noise ranges to be categorized by work phase. Table 4.8.K lists typical construction equipment noise levels recommended for noise impact assessments, based on a distance of 50 feet between the equipment and a noise receptor.

Table 4.8.K: Maximum Construction Equipment Noise Levels

Type of Equipment	Range of Sound Levels Measured (dBA at 50 feet)	Suggested Sound Levels for Analysis (dBA at 50 feet)
Pile Drivers, 12,000 to 18,000 ft-lb/blow	81 to 96	93
Rock Drills	83 to 99	96
Jackhammers	75 to 85	82
Pneumatic Tools	78 to 88	85
Pumps	68 to 80	77
Dozers	85 to 90	88
Tractors	77 to 82	80
Front-End Loaders	86 to 90	88
Hydraulic Backhoe	81 to 90	86
Hydraulic Excavators	81 to 90	86
Scrapers	81 to 87	85
Graders	79 to 89	86
Air Compressors	76 to 86	86
Trucks	76 to 86	86

Source: Noise Control for Buildings and Manufacturing Plants, Bolt, Beranek & Newman 1987.

Typical noise levels range up to 91 dBA L_{max} at 50 feet during the noisiest construction phases. The site preparation phase, which includes excavation and grading of the site, tends to generate the highest noise levels, because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery such as dozers and loaders. Earthmoving and compacting equipment includes compactors, bulldozers, backhoes, and loaders. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings.

Construction of the proposed project is expected to require the use of earthmovers, dozers, and water and pickup trucks. Noise typically associated with the use of construction equipment is estimated between 79 and 89 dBA L_{max} at a distance of 50 feet from the construction effort for the grading phase. This equipment would be used on the project site. As seen in Table 4.8.K, the maximum noise level generated by each earthmover on the proposed project site is assumed to be 88 dBA L_{max} at 50 feet from the earthmover. Each dozer would also generate 88 dBA L_{max} at 50 feet. The maximum noise level generated by water and pickup trucks is approximately 86 dBA L_{max} at 50 feet from these vehicles. Each doubling of the sound sources with equal strength increases the noise level by 3 dBA. Assuming that each piece of construction equipment operates as an individual noise source, the worst-case composite noise level during this phase of construction would be 91 dBA L_{max} at a distance of 50 feet from an active construction area.

The OCFEC proposes to remove the earthen berm from the closed amphitheater. It is estimated that 200,000 cubic yards of material would need to be removed. It is assumed that the removal of the material would be completed under several time periods: 30 days, 45 days, 60 days, 90 days, and 120 days. The following lists the assumptions made for this analysis:

- Caterpillar 966 rubber tire loaders and/or excavators with tracks would be used for the on-site removal of the berm material
- Approximately 300 feet of distance for loaders traveling on haul routes on site
- Approximately 500 feet of distance for vehicle travel on unpaved roads on site
- Belly or end dump trucks, with 25-ton loaded beds carrying 15- to 18-yard loads, would be used to haul the material off site
- A water truck would also be used on site for dust control
- A 20-mile one-way trip length was assumed for haul trucks to the off-site deposit location
- A 20-mile one-way trip length was assumed for construction workers' commute length

Based on the aerial photo maps, the closest residences to the west are approximately 800 feet from the project site. Residences to the northeast of the amphitheater site are approximately 1,600 feet away. Residences to the south of the amphitheater are approximately 1,000 feet away. Residences to the southeast across the SR-55 are approximately 2,600 feet away. The residences would receive the following noise reduction, when compared to the noise level at 50 feet from the active construction area:

- Residences to the south, 1,000 feet, approximately 26 dBA reduction
- Residences to the west, 800 feet, approximately 24 dBA reduction
- Residences to the northeast, 1,600 feet, approximately 30 dBA reduction
- Residences to the southeast, 2,600 feet, approximately 34 dBA reduction

Maximum noise level at 50 feet from an active construction area would reach 91 dBA (L_{max}). When subtracted by the noise reduction from distance attenuation, construction noise at the residences 800 feet to the west would be reduced to 67 dBA (L_{max}) or lower. In addition, intervening structures between the project site and these residences would provide additional noise reduction. This range of maximum noise levels is compatible or below ambient noise from other community activities, such as vehicular traffic noise on local streets. Noise from haul trucks traveling along selected haul routes, such as Fairview Road (up to 444 trips per day under the 30-day schedule), would result in additional traffic noise along these roadways. However, except for increased annoyance when trucks are passing by, no significant long-term (daily or monthly) traffic noise impacts would occur. Therefore, noise impacts associated with the proposed action would not be considered significant.

Construction of other components of the proposed project would result in the use of equipment/vehicles on the project site. However, because of the buffer zone between the construction areas and residences adjacent to the project site, noise generated by the project construction would be attenuated to less than significant levels.

Mitigation Measure 8-1 During project construction, the construction superintendent shall implement the following measures to reduce construction noise impacts:

a) Limit construction hours to between 7:00 a.m. and 7:00 p.m. Monday through Saturday; construction is not permitted on Sundays and federal holidays

b) Properly muffle and maintain all internal combustion engines used for construction on the site

c) Locate all stationary noise generating sources, such as air compressors and portable power generators, as far away as feasible from homes (and classrooms when school is in session)

d) Prohibit unnecessary idling of internal combustion engines

Notations in the above format, appropriately numbered and included with other notations on the front sheet of grading plans, will be considered as adequate evidence of compliance with this mitigation measure. The California Construction Authority will verify the inclusion of notations during plan check and prior to issuance of the Notice to Proceed.

On-Site Stationary Source Noise Impacts

There are several potential noise sources, including the arena used for a speedway and the amphitheater, within the project boundary that would affect off-site sensitive uses. The arena would be relocated from its current location in the middle of the project site's northern portion to a location south of the project site. This relocation would move the arena away from its nearest noise sensitive uses to the north, including the Davis Intermediate School, Costa Mesa High School, TeWinkle Park, and residences north of those locations. The effect of this relocation on residences southeast of the project site would be small and negligible because of the distance from existing residences and because of traffic noise from SR-55. The following analysis focuses on potential noise impacts from the operation of the amphitheater.

Based on the noise monitoring results conducted for concerts during the 2002 Orange County Fair, the following lists the potential worst-case noise levels from future concerts at 200 feet from the stage/speakers:

- In areas in front of the stage/speakers, 94 dBA L_{eq} and 102 dBA L_{max}
- In areas on both sides of the stage/speakers, 90 dBA L_{eq} and 98 dBA L_{max}
- In areas on the back of the stage/speakers, 86 dBA L_{eq} and 94 dBA L_{max}

Currently, there is an earthen berm surrounding the northern and eastern boundaries of the amphitheater. Along its center, this earthen berm is approximately 39 feet higher than the ground level seating area and about 120 feet wide. The highest portion of the earthen berm, or its center, is approximately 360 feet to the stage. Table 4.8.L lists the source level, noise attenuation, and resulting noise level at 947 Serra Way. It should be noted that the noise attenuation only considers distance divergence and berm effect (including people in the seating area if the berm is removed). Noise attenuation that may be provided by intervening structures and atmospheric absorption was not included for a worst-case scenario.

Noise levels at 947 Serra Way could exceed the 1990 Order's nighttime noise standards (in terms of the L_{50} percentile exceedance noise level), even if the existing 39-foot berm is not removed. This residence would potentially be exposed to noise levels exceeding the 1990 Order's nighttime noise standards if the concert noise exceeding 50 dBA lasts more than 30 minutes in any hour, which would be equivalent to the L_{50} percentile exceedance levels.

Sound attenuation effects of a sound wall behind the last row of the seats surrounding the entire seating area were evaluated for wall height above the elevation of the top row of the bleachers, which are assumed to be 10 feet above the stage level. Table 4.8.L shows that a 10-foot wall at this location can reduce the maximum noise from the concert at the amphitheater at 947 Serra Way to below the maximum noise level standards (75 dBA L_{max} during daytime hours and 70 dBA L_{max} during nighttime hours) established by the 1990 Order. However, even with a wall height of 30 feet above the elevation of the top row of the bleachers (which is almost equivalent to the height of the existing earthen berm that is 39 feet above the stage level), noise from a concert at the amphitheater would potentially exceed the nighttime (L_{50}) noise standards that should not be exceeded for more than 30

Table 4.8.L: Amphitheater Noise Impacts

Receptor Location	Source Level (dBA)[1]	Distance (feet) and Noise Attenuation (dBA)[2]	Berm[3] Noise Attenuation (dBA)	Noise Level at 947 Serra Way (Receptor Location) (dBA)		1990 Order Standard		Noise Level at Receptor Location with Wall behind Bleachers[4] (dBA)			
				With Berm	No Berm[5]	L_{50}[6]	L_{max}[7]	5'	10'	20'	30'
947 Serra Way	94 L_{eq} 102 L_{max}	3,200 feet 24 dBA	15 dBA	55 L_{eq} 63 L_{max}	65 L_{eq} 73 L_{max}	55/50	75/70	63 L_{eq} *71 L_{max}*[8]	61 L_{eq} **69 L_{max}**[9]	56 L_{eq} **63 L_{max}**	*53 L_{eq}* **60 L_{max}**

Source: LSA Associates, Inc., December 2002.

1 Level at 200 feet from the stage.
2 Noise attenuation relative to the level at 200 feet from stage.
3 Noise attenuation provided by the existing 39-foot-high earthen berm.
4 Wall height above the elevation of the top row of bleachers (10 feet above stage). No sound attenuation from audience in seating is assumed.
5 Include 5 dBA noise attenuation by people in the seating (up to 10 feet above the stage) now that the 39-foot berm is no longer there.
6 Exterior noise standards not to be exceeded for more than 30 minutes in any hour for daytime/nighttime hours. For steady noise, this noise level would be similar to the L_{eq} level.
7 Maximum exterior noise levels not to be exceeded for any period of time for daytime/nighttime hours.
8 Levels shown in italic meet the daytime noise standards only.
9 Levels shown in bold meet both daytime and nighttime noise standards.

minutes in any hour at this residence. This scenario would occur when the cumulative concert noise exceeding 50 dBA lasts for more than 30 minutes in any hour during nighttime hours specified in the 1990 Order.

Other mitigation measures, such as fully or partially enclosing the amphitheater and/or controlling the noise level at the source, or a combination of the aforementioned mitigation measures, may be required to reduce the noise impacts to a less than significant level for nonfair concert events.

Due to the buffer zone(s) between the project site and off-site sensitive uses, other on-site noise-generating activities, such as parking lots and outdoor paging, would not generate any significant noise impacts during operation.

Mitigation Measure 8-2 Should the 32nd DAA Board of Directors decide to use the amphitheater for nonfair concert events, all or any combination of the following mitigation measures may need to be applied to meet the requirements of the 1990 Order:

- Partial walls;
- Partial enclosure (walls and a portion of a roof);
- Full enclosure; and
- Noise control and monitoring at the source.

If partial enclosure is considered, the opening of the enclosure will be designed so that it is not open to the direction of any noise sensitive land uses. In addition, sound absorptive material or finish is to be used on the interior surface of the partial enclosure to reduce the potential of noise leaking out of the enclosure.

Traffic Impacts

The traffic impact analysis prepared for the proposed project (LSA Associates, Inc., November 2002) provided afternoon peak hour vehicle trips generated on the project site. Based on the project trip distribution in the project vicinity, the project's contribution to average daily traffic (ADT) volumes along the roadway segments in the project vicinity were calculated for each impacted segment. Similar to the existing baseline conditions, the FHWA highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate highway traffic related noise conditions in the vicinity of the project site.

The existing (year 2002) with project conditions traffic noise impact analyses were conducted for four operations scenarios: Existing Typical Weekend plus Master Plan, Existing Interim Event plus Master Plan, Existing Interim Event plus Master Plan plus Concert, and Existing Fair Event plus Master Plan. Traffic noise levels under these four operations scenarios are listed in Tables 4.8.M through 4.8.P. The resultant noise levels are weighted and summed over 24-hour periods to

Table 4.8.M: Existing Typical Event Plus Master Plan Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 Feet from Outermost Lane	Change from No Project Level (dBA)
Fair Drive						
Between Harbor and Fairview	10,032	< 50[1]	78	162	65.4	0.0
Between Fairview and Vanguard	18,583	57	115	243	68.1	0.0
Between Vanguard and Newport Blvd.	22,007	63	128	271	68.8	0.0
Between Newport Blvd. and Orange	10,060	< 50	75	161	66.9	0.0
Between Orange and Santa Ana	6,197	< 50	54	117	64.8	0.0
Fairview Road						
Between I-405 and Baker	39,775	109	225	479	71.8	0.0
Between Baker and Adams	41,854	113	232	496	72.0	0.0
Between Adams and Arlington	27,503	88	177	376	70.2	0.0
Between Arlington and Fair	25,890	85	171	361	69.9	0.0
Between Fair and Wilson	12,697	< 50	110	226	66.9	0.0
Between Wilson and Newport Blvd.	9,937	< 50	91	191	66.5	0.0
Newport Blvd. (North)						
Between Bristol and Mesa	6,632	< 50	< 50	102	62.8	0.0
Between Mesa and Fair	5,523	< 50	< 50	90	62.0	0.0
Between Fair and Vanguard	11,557	< 50	70	146	65.2	0.0
Between Vanguard and Fairview	9,990	< 50	64	133	64.5	0.0
Newport Blvd. (South)						
Between Bristol and Mesa	25,927	54	116	249	69.8	0.0
Between Mesa and Fair	22,575	< 50	105	227	69.2	0.0
Between Fair and Vanguard	9,385	< 50	59	126	65.3	0.0
Between Vanguard and Fairview	7,538	< 50	51	109	64.4	0.0
Harbor Blvd.						
Between Wilson and Fair	43,751	116	239	511	72.2	0.0
Between Fair and Adams	43,028	114	237	505	72.2	0.0
Between Adams and Baker	49,230	128	260	553	72.1	0.0

Source: LSA Associates, Inc. November 2002.

[1] Traffic noise within 50 feet of roadway centerline requires site specific analysis.

Table 4.8.N: Existing Interim Event Plus Master Plan Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 Feet from Outermost Lane	Change from No Project Level (dBA)
Fair Drive						
Between Harbor and Fairview	10,382	< 50[1]	80	166	65.5	0.0
Between Fairview and Vanguard	20,815	61	123	262	68.6	0.1
Between Vanguard and Newport Blvd.	23,090	65	132	280	69.0	0.0
Between Newport Blvd. and Orange	9,253	< 50	71	152	66.6	0.1
Between Orange and Santa Ana	6,197	< 50	54	117	64.8	0.0
Fairview Road						
Between I-405 and Baker	40,730	111	228	487	71.9	0.1
Between Baker and Adams	41,361	112	231	492	72.0	0.1
Between Adams and Arlington	30,790	94	191	405	70.7	0.1
Between Arlington and Fair	27,198	88	176	373	70.2	0.1
Between Fair and Wilson	12,679	< 50	110	226	66.8	0.0
Between Wilson and Newport Blvd.	10,215	< 50	93	195	66.6	0.1
Newport Blvd (North)						
Between Bristol and Mesa	7,214	< 50	< 50	107	63.1	0.2
Between Mesa and Fair	6,061	< 50	< 50	96	62.4	0.3
Between Fair and Vanguard	11,487	< 50	69	145	65.1	0.0
Between Vanguard and Fairview	10,173	< 50	64	134	64.6	0.0
Newport Blvd (South)						
Between Bristol and Mesa	28,366	57	123	264	70.1	0.0
Between Mesa and Fair	23,347	< 50	108	232	69.3	0.1
Between Fair and Vanguard	10,361	< 50	63	135	65.8	0.0
Between Vanguard and Fairview	7,973	< 50	53	113	64.6	0.0
Harbor Blvd.						
Between Wilson and Fair	43,793	116	239	511	72.2	0.0
Between Fair and Adams	43,513	115	238	509	72.2	0.0
Between Adams and Baker	51,390	131	267	569	72.3	0.0

Source: LSA Associates, Inc., November 2002.

[1] Traffic noise within 50 feet of roadway centerline requires site specific analysis.

Table 4.8.O: Existing Interim Event Plus Master Plan Plus Concert Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 Feet from Outermost Lane	Change from No Project Level (dBA)
Fair Drive						
Between Harbor and Fairview	10,817	< 50[1]	82	170	65.7	0.2
Between Fairview and Vanguard	23,529	66	133	284	69.1	0.6
Between Vanguard and Newport Blvd.	25,152	68	139	297	69.4	0.4
Between Newport Blvd. and Orange	9,470	< 50	72	155	66.7	0.2
Between Orange and Santa Ana	6,414	< 50	56	119	65.0	0.2
Fairview Road						
Between I-405 and Baker	45,289	118	245	523	72.4	0.6
Between Baker and Adams	45,940	119	247	527	72.4	0.5
Between Adams and Arlington	35,349	102	208	443	71.3	0.7
Between Arlington and Fair	30,128	93	188	399	70.6	0.5
Between Fair and Wilson	14,090	63	117	242	67.3	0.5
Between Wilson and Newport Blvd.	11,626	< 50	101	212	67.2	0.7
Newport Blvd. (North)						
Between Bristol and Mesa	9,819	< 50	63	131	64.5	1.6
Between Mesa and Fair	8,666	< 50	58	121	63.9	1.8
Between Fair and Vanguard	11,487	< 50	69	145	65.1	0.0
Between Vanguard and Fairview	10,173	< 50	64	134	64.6	0.0
Newport Blvd. (South)						
Between Bristol and Mesa	30,971	61	130	280	70.5	0.4
Between Mesa and Fair	27,037	55	119	256	69.9	0.7
Between Fair and Vanguard	10,361	< 50	63	135	65.8	0.0
Between Vanguard and Fairview	7,973	< 50	53	113	64.6	0.0
Harbor Blvd.						
Between Wilson and Fair	44,010	116	240	513	72.3	0.0
Between Fair and Adams	43,948	116	240	512	72.2	0.0
Between Adams and Baker	51,607	132	268	570	72.4	0.1

Source: LSA Associates, Inc., November 2002.

[1] Traffic noise within 50 feet of roadway centerline requires site specific analysis.

Table 4.8.P: Existing Fair Event Plus Master Plan Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 Feet from Outermost Lane	Change from No Project Level (dBA)
Fair Drive						
Between Harbor and Fairview	10,361	< 50[1]	80	165	65.5	0.0
Between Fairview and Vanguard	26,716	71	145	309	69.7	0.1
Between Vanguard and Newport Blvd.	24,587	67	137	292	69.3	0.1
Between Newport Blvd. and Orange	11,022	< 50	80	171	67.3	0.0
Between Orange and Santa Ana	9,455	< 50	72	154	66.6	0.0
Fairview Road						
Between I-405 and Baker	47,600	122	253	540	72.6	0.1
Between Baker and Adams	45,322	118	245	523	72.4	0.1
Between Adams and Arlington	33,904	99	203	431	71.1	0.1
Between Arlington and Fair	30,483	94	189	402	70.7	0.1
Between Fair and Wilson	13,862	62	116	240	67.2	0.1
Between Wilson and Newport Blvd.	11,064	< 50	98	205	67.0	0.1
Newport Blvd. (North)						
Between Bristol and Mesa	8,814	< 50	59	122	64.0	0.3
Between Mesa and Fair	6,220	< 50	< 50	98	62.5	0.4
Between Fair and Vanguard	12,128	< 50	72	151	65.4	0.0
Between Vanguard and Fairview	10,391	< 50	65	136	64.7	0.0
Newport Blvd. (South)						
Between Bristol and Mesa	29,258	58	125	270	70.3	0.1
Between Mesa and Fair	21,549	< 50	102	220	69.0	0.2
Between Fair and Vanguard	10,202	< 50	62	134	65.7	0.0
Between Vanguard and Fairview	7,848	< 50	52	112	64.6	0.0
Harbor Blvd.						
Between Wilson and Fair	44,013	116	240	513	72.3	0.1
Between Fair and Adams	49,572	125	260	555	72.8	0.0
Between Adams and Baker	55,723	138	282	600	72.7	0.0

Source: LSA Associates, Inc., November 2002.

[1] Traffic noise within 50 feet of roadway centerline requires site specific analysis.

determine the CNEL values. Table 4.8.M shows that there is no measurable change in traffic noise level from the Existing Typical Weekend scenario under the Existing Typical Weekend plus Master Plan scenario. Table 4.8.N shows that the traffic noise level would increase by up to 0.3 dBA along the roadway segments in the project vicinity under the Existing Interim Event plus Master Plan scenario. Table 4.8.O shows that the traffic noise level would increase by up to 1.8 dBA along the roadway segments in the project vicinity under the Existing Interim Event plus Master Plan plus Concert scenario. Table 4.8.P shows that the traffic noise level would increase by up to 0.4 dBA along the roadway segments in the project vicinity under the Existing Fair Event plus Master Plan scenario. This range of noise level changes is small and is not perceptible by the human ear in an outdoor environment over a period of time.

Phasing

Project phasing will not create any short-term or long-term impacts for noise, nor will it require mitigation measures beyond those specified in the analysis above.

4.8.5 SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

There would be no significant noise impacts from short-term construction or long-term operation of the project site with the implementation of the mitigation measures identified above.

4.9 POPULATION AND HOUSING

This section analyzes existing housing, population, and employment characteristics of the City of Costa Mesa and compares those characteristics to potential impacts created by the proposed project. Also analyzed is the relationship between the project and applicable objectives from the City of Costa Mesa General Plan Housing Element.

4.9.1 EXISTING SETTING

Population

The Orange County Fair and Exposition Center (OCFEC) is located in the City of Costa Mesa. The City is urbanized and nearing build out. According to the 2000 Census, the current population of the City of Costa Mesa is approximately 109,000.[1] This is roughly four percent of the total population of the County of Orange, which according to the 2000 Census, is approximately 2,800,000.

The Southern California Association of Governments (SCAG) is a regional agency responsible for developing demographic projections, including population, households, and employment, for the southern California region. The Regional Transportation Plan Forecast (2001) provided by SCAG identifies demographic projections for the years 2010 through 2025. These growth projections are generated using the latest available data from the U.S. Census Bureau. The growth projections for the City of Costa Mesa and the County of Orange are excerpted below in Table 4.9.A. Available data from the 2000 Census has been added.

Housing

Household Characteristics. According to the 2000 U.S. Census, there are 39,206 households in the City of Costa Mesa. SCAG estimates this number will increase by six percent (6%) between 2000 and 2010. This is five percent less than the growth in households estimated for the County of Orange during the same period. From 2010 to 2015, the City's household growth is estimated to increase by an additional three percent (3%), which is just slightly less than the estimated increase for Orange County.

[1] U.S. Census Bureau. Census 2000. Redistricting Data [Public Law 94-171] Summary File.

Table 4.9.A: Population, Housing, and Employment Data for the City of Costa Mesa, CA

	2000	2010	% Change 2000–2010	2015	% Change 2010–2015	2020	% Change 2015–2020	2025	% Change 2020–2025
Population									
Costa Mesa	108,700	114,900	6%	117,900	3%	120,000	2%	122,200	2%
Orange County	2,846,300	3,163,000	11%	3,263,000	3%	3,335,000	2%	3,403,000	2%
Total Households									
Costa Mesa	39,206	40,200	3%	40,500	1%	40,500	0%	41,000	1%
Orange County	935,287	1,011,000	8%	1,034,000	2%	1,050,000	2%	1,068,000	2%
Total Employment									
Costa Mesa	n/a	98,800	n/a	102,900	4%	106,100	3%	109,000	3%
Orange County	n/a	1,797,000	n/a	1,897,000	6%	1,975,000	4%	2,044,000	3%

Source: U.S. Census Bureau 2002.

Housing Stock Characteristics. The City of Costa Mesa devotes roughly 47 percent of all City land to residential uses. The Housing Element of the Costa Mesa General Plan shows the following distribution of housing units:[1]

• Single family dwelling units	19,205	47.3%
• 2–4 units per structure	5,933	14.6%
• 5+ units per structure	14,170	34.9%
• Mobile homes	1,303	3.2%
Total Housing Units:	***40,611 units***	

Housing sale prices have generally risen within the City of Costa Mesa over the past few years. In August 2000, the average home sale price was $291,505, an increase of eight percent from 1998. Overall, the City of Costa Mesa is almost completely built out. There are approximately 80 vacant residentially zoned acres in the City that could yield an estimated 1,640 units of additional housing. In response to the limited supply of vacant land, the City has begun to identify land with potential for redevelopment.

City of Costa Mesa Housing Element Objectives. California housing law requires regional planning agencies to identify existing and future housing needs every five years. Existing need is defined by SCAG as the number of lower income households overpaying for housing (i.e. expending 30 percent or more of income on housing costs as of January 1, 1987). Future need is defined as the

[1] City of Costa Mesa General Plan Housing Element. 2002. HOU-33.

number of additional housing units by income level that will have to be added to each jurisdiction's housing stock from July 1, 1989, to June 30, 1994, in order to 1) accommodate household growth, 2) compensate for demolitions and other inventory losses, and 3) achieve a 1994 vacancy rate that will allow the market to operate efficiently. As required by California housing law, the City of Costa Mesa General Plan Housing Element outlines the existing housing needs within the City based on SCAG projections and identifies strategies that the City will employ to achieve its housing objectives. The City's most current Housing Element uses SCAG's 1988 Regional Housing Needs Assessment (RHNA).[1]

The City of Costa Mesa's Housing Element (HOU-22) indicates a future housing need for the City of 1,268 housing units to be developed between 1998 and 2005. The majority of these housing units are for moderate and above moderate income households.

Income and Employment

In 1990 (the latest available data), the median household income in the City of Costa Mesa was $40,313, with a per capita income of $18,175. Income distribution for 1990 is shown in Table 4.9.B, below:

Table 4.9.B: City of Costa Mesa Household Income Distribution

Income Range	Percent of Thresholds
Up to $14,999	12.3%
$15,000–$24,999	14.1%
$25,000–$34,999	16.2%
$35,000–$49,999	19.8%
$50,000–$74,999	21.2%
$75,000 or greater	16.4%

The projection of future employment within the City is 102,900 in the year 2010, increasing to 106,100 in the year 2020 per estimates provided by the SCAG's 2001 RTP Adopted Forecast. The major industry in the City is trade (retail/wholesale) followed by services and manufacturing. Table 4.9.C lists the largest employers within the City:

[1] SCAG has not prepared an update to the 1988 RHNA. Given the absence of regional estimates, the State of California has directed all cities to use the 1988 RHNA figures.

Table 4.9.C: Largest Employers in the City of Costa Mesa

Name of Organization	Number of Employees
Fairview Development Center	1,550
Coast Community College District (O.C.C.)	1,200
Orange County Fair and Exposition Center	1,100
Nordstrom Department Store	950
Macy's Department Store	900
Bradford Building Services	800
Los Angeles Times—Orange County	750
Deloitte & Touche	700
City of Costa Mesa	630
State Farm Insurance Companies	620
Ditech Communications	600
MGE UPS Systems	600
Price Waterhouse Coopers, LLP	550
AVCO Financial Services, Inc.	500
Seagate Tape Operations/Division	450
KPMG LLP	450
Griswold Industries	400
Double Tree Hotel—Orange County Airport	400
College Hospital Costa Mesa	400

Source: Inside Prospects 2000; compiled by the City of Costa Mesa

4.9.2 THRESHOLDS OF SIGNIFICANCE

The significance criteria are related to policies in the SCAG Regional Comprehensive Plan and Guide (adopted June 1994, supplement June 1995). These policies are intended to provide direction to implementing jurisdictions and are not mandates. SCAG has adopted policies to maintain the regional quality of life; to provide social, political and cultural equity; and to incorporate air quality considerations in land use, transportation, and economic decisions.

Impacts on population and housing are considered significant if growth from the project:

9-A Displaces a substantial number of existing housing or people, necessitating the construction of replacement housing elsewhere;

9-B Induces substantial growth or concentration of population beyond regional projections; or

9-C Provides employment for workers who, because of housing prices and the pay scale for workers, cannot find housing within a 30 minute commute from the OCFEC.

4.9.3 PROJECT DESIGN FEATURES

There are no applicable project design features for population and housing identified in this EIR.

4.9.4 IMPACTS AND MITIGATION MEASURES

Effects Determined to Be Less Than Significant

The potential population and housing impacts of the proposed OCFEC Master Plan are not considered to be significant because:

- No existing housing would be displaced because the site is currently developed as a fairground facility (Criterion 9-A).
- The proposed project would not induce substantial population growth as it is neither a residential development nor a project that would generate substantial new job opportunities (Criterion 9-B).
- The proposed project will not cause an increase in the number of employees who, because of housing prices or pay scale, cannot find housing within a 30 minute commute from the project site. During the summer fair, additional fair and summer staff are housed temporarily on the premises or drawn from the local existing population and the surrounding areas (Criterion 9-C).

Phasing

Project phasing will not create any short- or long-term impacts for population and housing, and will not trigger the need for mitigation.

4.9.5 SIGNIFICANT UNAVOIDABLE IMPACTS

The proposed project will not result in any unavoidable adverse impacts to population and housing.

4.10 PUBLIC SERVICES AND UTILITIES

The following section addresses utilities, public services, and public facilities near the Orange County Fair and Exposition Center (OCFEC). Utilities include the provision or disposition of water, wastewater, water runoff, solid waste disposal services, electricity, natural gas, telephone, and cable television. Public services include law enforcement and fire protection. Public facilities included in this discussion address public education and public libraries.

The OCFEC is currently served by a number of public and quasipublic agencies. The proposed project will continue to be served by these same entities. These agencies were contacted as part of the Notice of Preparation (NOP) process for the EIR or through subsequent questionnaires and phone conversations to obtain information regarding available service levels and current or anticipated constraints to the proposed project. The NOP comment letters and questionnaire responses are provided in Appendix A.

4.10.1 EXISTING SETTING

Various public services and utilities have been provided to the project site for over 50 years. Existing levels of service have proven adequate to meet the needs of the OCFEC during both Fair and non-Fair activities. The companies that provide utilities and public services to the project site are as follows:

Water:	Mesa Consolidated Water District
Sewer:	Costa Mesa Sanitary District
Natural Gas:	Southern California Gas Company
Electric:	Southern California Edison
Fire:	Costa Mesa Fire Department
Law Enforcement Services:	OCFEC Public Safety Department and the Orange County Sheriff's Department

Water

The facility is surrounded by public water mains that run around the entire perimeter of the property. Water services and facilities are provided by Mesa Consolidated Water District. The water lines are generally large in diameter, and in the case of Arlington Drive and Newport Boulevard, are relatively new. Water distribution consists of a well-developed and connected network of water mains that are looped in some areas. There are three meter locations, all interconnected.

The average demand for the Fairgrounds over the past 10 years has been approximately 114 acre-feet per year or 0.10 million gallons per day.

The following is a breakdown of the water mains, meter/backflow preventers, and fire hydrants located on and off the project site (inches equal to the diameter of the main).

Off site:

Fair Drive

One 8-inch cast-iron main
One 10-inch PVC main (reclaimed)
One 36-inch concrete cylinder main

Fairview Road

One 8-inch asbestos cement main
Two 10-inch PVC mains (reclaimed)
One 18-inch concrete cylinder

Arlington Drive

One 16-inch asbestos cement main
One 36-inch cement motorlined and coated main

Newport Boulevard

One 16-inch asbestos cement main

On site:

Equestrian Center

One 10-inch cast-iron main
Five 8-inch cast-iron mains
Five fire hydrants
One meter/backflow preventer

Grandstand Arena

One 6-inch cast-iron main
Three 8-inch cast-iron mains
One fire hydrant

Fair Square, Camping/Vendor Parking, and Centennial Farm Area

Four 6-inch cast-iron mains
Five 8-inch cast-iron mains
Three 8-inch asbestos cement mains
Four 10-inch cast-iron mains
Ten fire hydrants
One meter/backflow preventer

Amphitheater Area

Two 8-inch cast-iron mains
Two fire hydrants

Parking Lots
- One 10-inch asbestos cement main
- One 8-inch cast-iron main
- One fire hydrant
- One meter/backflow preventer

In addition to these water mains, there are four proposed water mains to be located in and around Fair Square and the Amphitheater.

Reclaimed water lines are located along Fairview Road, Arlington Drive, and the very west end of Fair Drive; however, the OCFEC has no connections to this system at this time.

Wastewater

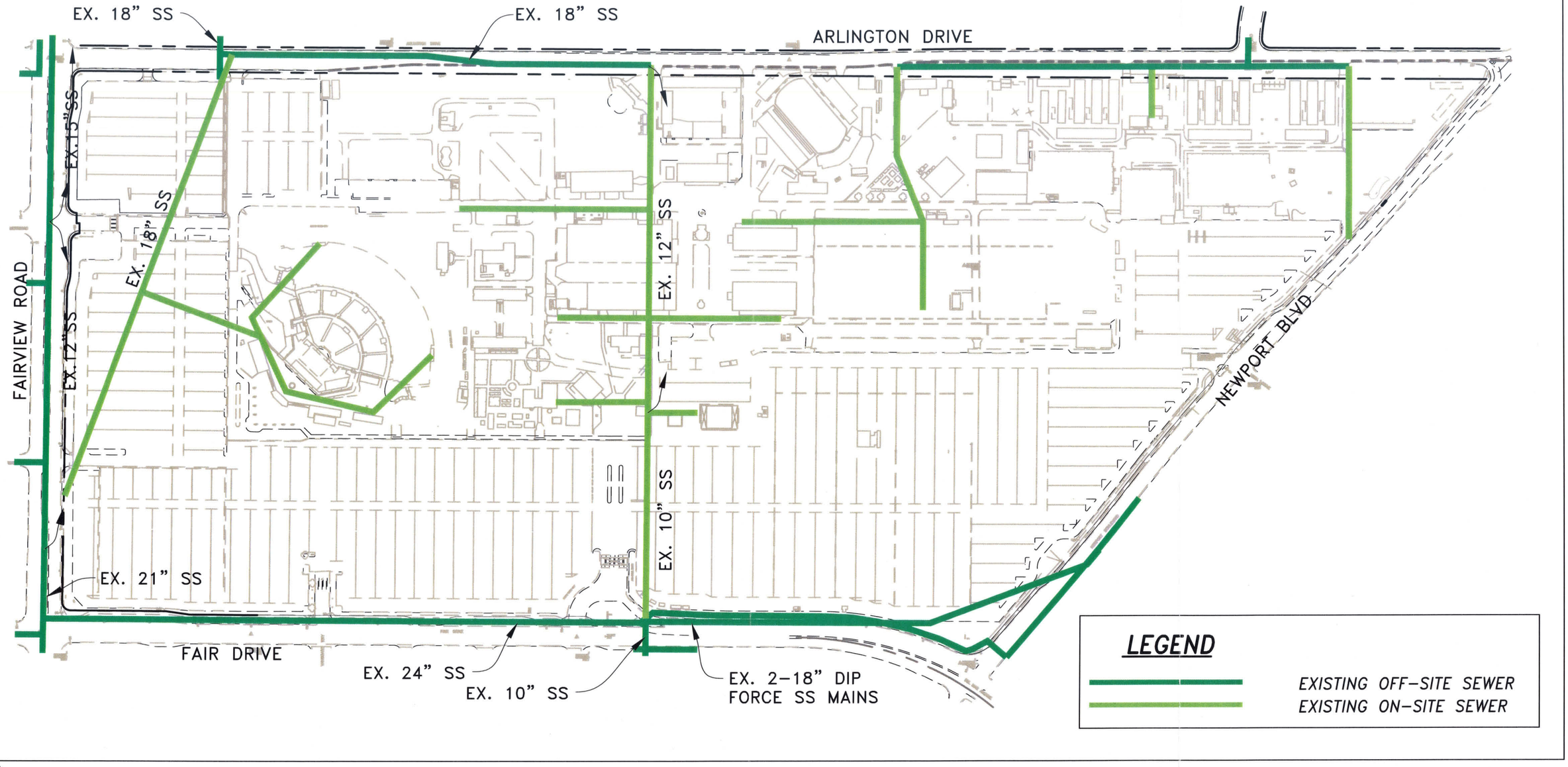
Sanitary sewer service is provided by the Costa Mesa Sanitary District (Sanitary District or CMSD). The Sanitary District operates sewer lines in Fair Drive, Fairview Road, and Arlington Drive. The Sanitary District at one time also operated several sewer lines that actually ran through the grounds under an easement agreement, but those lines were deeded to the 32nd District Agricultural Association (DAA) in 1990. The most prominent on-site sewer line is a large diameter line that runs south to north directly under the existing Floriculture Building and Building Number 10. The other is a large diameter line running diagonally from southwest to northeast at the northwest corner of the grounds. This line is still operated by the Sanitary District. There are other small diameter sewer lines on the grounds that have been operated by Sanitary District, but these have either been taken over in recent years by the OCFEC or are in the process of being transferred to the OCFEC.

In 1995, the CMSD upgraded its pressure sewer line force main that traversed the southeast corner of the OCFEC. In cooperation with the City of Costa Mesa and the OCFEC, the line was relocated under a bicycle trail from the intersection of Fair Drive and Newport Boulevard to the main OCFEC entrance, and a new concrete bicycle trail was constructed over the top of the line.

The on-site sanitary sewer system within the OCFEC flows generally to the north and connects to the Sanitary District's lines in Arlington Drive. There are basically two collection systems: one system serves the east end of the grounds and then flows off site in a northeasterly direction, and one system serves the central and west portions of the site and flows in a northwesterly direction along Fairview Road.

The western public sewer system serving the OCFEC is currently being improved as part of a joint effort between the CMSD and the Orange County Sanitation District (OCSD). The improvement consists of a new sewer in Arlington Drive, rehabilitation of the existing sewer through Davis School and Costa Mesa High School, and a new sewer on Costa Mesa High School property flowing to Fairview Road. Once completed, the system will be transferred to CMSD control.

Figures 4.10.1 and 4.10.2 illustrate the existing sewer and water systems on the project site.



LSA

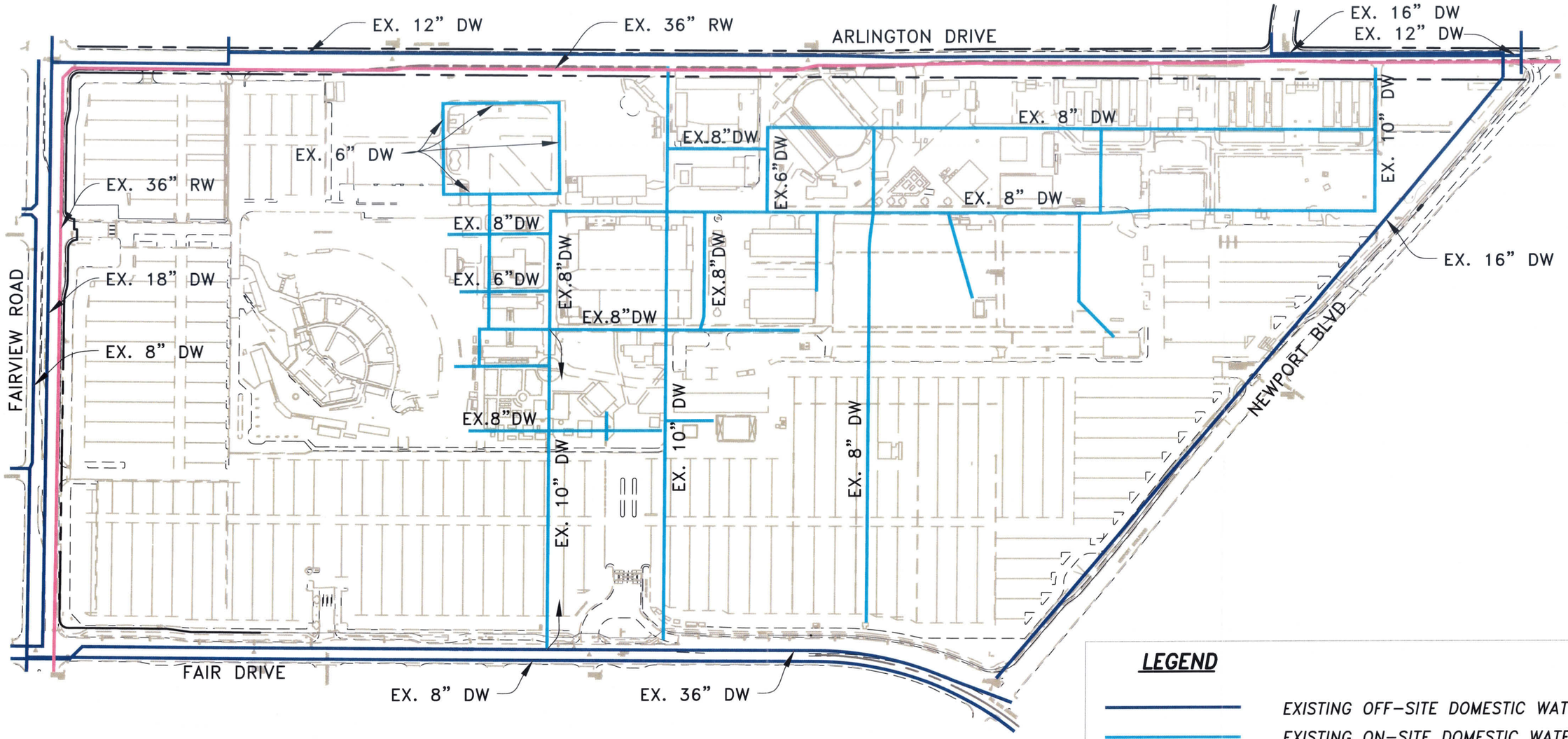
FIGURE 4.10.1

Orange County Fair and Exposition Center

Sewer System Exhibit

SOURCE: Fuscoe Engineering

I:\Ccz030\G\Sewer System Ex.cdr (12/10/02)



LSA

FIGURE 4.10.2

Orange County Fair and Exposition Center

Water System Exhibit

SOURCE: Fuscoe Engineering

I:\Ccz030\G\Water System Ex.cdr (12/10/02)

Solid Waste

Refuse is collected from surrounding properties by the Costa Mesa Sanitary District. The District is responsible for residential trash collection and transmittal to a recycling facility for recycling and disposal. The District reached 50 percent diversion prior to the year 2000 and is in full compliance with all State mandates.

Solid waste generated at the OCFEC is collected by CR&R, a private solid waste collection and recycling service provider. CR&R maintains four commercial trash bins at the OCFEC. Trash contained in compactor bins owned by the OCFEC is also collected by CR&R.

Natural Gas and Electricity

Natural gas service to the project area is provided by the Southern California Gas Company (SCGC). A series of six distribution lines run under the parking lot on the eastern side of the site. There is one 2-inch (in diameter) distribution line of approximately 840 feet that runs north, with one 2-inch distribution line of approximately 35 feet and one ¾-inch distribution line of approximately 30 inches that run east. A 1-inch polyethylene (PE) pipe runs west approximately 280 feet. A transmission line 30 inches in diameter runs under Fair Drive; however, it does not connect to the distribution lines on the site. The on-site lines connect with a three-inch PE main also located under Fair Drive.

There is currently no gas service being used on site. Previously, there was gas service to the old cafeteria building, but that building is no longer used, and the service is shut off.

Primary electrical service is provided to the OCFEC by the Southern California Edison Company (SCE). SCE maintains underground distribution facilities on the north side of Fair Drive (south of the Fairgrounds) and maintains overhead distribution facilities on the north side of Arlington Drive (north of the Fairgrounds) and on the west side of Fairview Road (west of the Fairgrounds).

During the development of the 1977 Master Plan, distributing primary voltage in a utility company operated 12 kilovolt (KV) loop system was determined to be the most cost-effective method of providing electric service to the grounds. This primary service loop has two service points: one at Arlington Drive on the west side of the Fairgrounds and another at the Equestrian Center on the east side. Metering is undertaken at various points and voltages along the loop, depending on the need.

Law Enforcement Services

The Public Safety Department of the OCFEC provides most of the basic law enforcement services for the project site. However, the Public Safety Department works in conjunction with the Orange County Sheriff's Department year round.

The Public Safety Department employs 20 long-term temporary workers year round and 210 people during the annual summer Fair. There are three shifts daily in which one employee is stationed at a booth (Arlington Drive entrance), and another is a "rover" patrolling the grounds. In addition to the grounds patrol, the Public Safety Department is responsible for the following services:

Monitoring the front gate (Gate 5) from 5:00 a.m. to 12:00 a.m.
Directing people to their desired locations
Collecting campground fees
Helping people set up exhibits
Assisting loads that come onto the Fairgrounds
Locking and unlocking buildings
Helping lost children
Traffic control

The Public Safety Department is equipped with a computer system that tracks a variety of locations on the project site and provides a current "real time" readout regarding safety issues on the Fairgrounds. All buildings as well as the grounds are checked and monitored on all three shifts.

The Public Safety Department also coordinates with the Orange County Sheriff's Department. Throughout the year, the Sheriff's Department supervises the Marketplace as well as any other large events that may be occurring on the Fairgrounds. During the Marketplace event (Saturdays and Sundays), two sheriff's deputies are assigned to the area to help with the setup of equipment, ticket writing, and arrests if needed. During special events on the remainder of the Fairgrounds, the OCFEC may request additional law enforcement.

During the annual Fair, there is an increase in law enforcement personnel. Deputies are assigned for both day and evening shifts in addition to a two-man patrol at midnight. These three shifts run from 10:00 a.m. to about 1:00 a.m. on the weekends and 10:00 a.m. to about 10:00 p.m. on the weekdays. The deployed staff includes deputies as well as reserves, which are teamed in pairs. During the annual summer Fair, about 900 shifts are filled by the Orange County Sheriff's Department. A command post is established on the Fairgrounds in which one dispatcher, a logistics deputy, a sergeant, and a lieutenant are posted. On the weekends of the Fair, two additional sergeants, three to four mounted teams, two bicycle teams, and a 24-person on-foot team are deployed. During the weekdays of the Fair, this number is reduced by approximately 50 percent. The majority of the arrests made during the annual Fair are for persons under the influence of alcohol.

Fire Protection and Emergency Medical Services

Fire protection for OCFEC is provided by the Costa Mesa Fire Department (CMFD) located at 77 Fair Drive. In the past, the CMFD received from four to six medical related calls per day during the annual Fair. However, the OCFEC now provides its own basic life support system (BLS) on site and has dedicated facilities that take care of basic medical problems. At the present time, the CMFD receives, at the most, two to three calls per day during the annual summer Fair.

The OCFEC is considered a high profile area due to the large number of people on site during the annual Fair. The CMFD takes care of advanced life support calls from the staff or visitors on site via 911. Emergency response times to the site are less than five minutes due to the CMFD's proximity to the Fairgrounds. The closest emergency room is Hoag Hospital, 1.3 miles from the OCFEC, but the Orange Coast Memorial Medical Center may also be used.

Emergency Response and Operations

The Costa Mesa Disaster plan serves as the community's Emergency Operations Plan (EOP). The EOP provides guidance during natural disasters, technological incidents, and nuclear defense operations. It also establishes a basic framework for reaction to disasters in terms of authority, responsibilities, and location of critical facilities and services. The EOP specifically provides the following information:

- Key personnel and groups in the Costa Mesa Emergency Organization who are organized to protect life and property in the community
- Sources of outside support that might be provided through mutual aid by other jurisdictions, State and federal agencies, and the private sector
- Allocation of responsibilities during an emergency, operations, coordinating instructions, an explanation of how the plan is to be administered, procedures to identify responsible personnel, and methods to request aid/support from other local communities

The EOP also establishes emergency evacuation routes for emergency situations. According to the EOP, the Police Chief will issue evacuation orders based on information gathered from emergency experts. Evacuation operations will be conducted by law enforcement agencies, highway/road/street departments, and public and private transportation providers.

The OCFEC, like most California fairgrounds, can serve as an evacuation site and command center for the State and local jurisdictions in an emergency. A member of staff is trained in the Standardized Emergency Management System (SEMS) and the Incident Command System (ICS). In the event of a State or local emergency, approximately 5,000 people, 500 horses, and 1,000 heads of livestock can be temporarily housed on site provided no events were occurring on site at the time of the emergency that would reduce available space.

Schools and Libraries

The project site is located within the Newport-Mesa Unified School District. Costa Mesa High School located at 2650 Fairview Road is the closest high school and serves grades 7 through 12. Approximately 2,000 students attend school at Costa Mesa High School. Davis Education Center located at 1050 Arlington Drive serves approximately 900 fourth, fifth, and sixth graders from three elementary schools.

The Orange County Public Libraries serving Costa Mesa provide book borrowing privileges, Web access, audio and video services, and sources for research related information. The Newport Mesa Branch Library is located at 2969 Mesa Verde Drive. The Costa Mesa Library is located at 1855 Park Avenue.

4.10.2 THRESHOLDS OF SIGNIFICANCE

The effects of a project on public services, utilities, and infrastructure are considered to be significant if the project will result in the following impacts beyond the net effect to the service provider:

10-1 The demand generated by the project exceeds the capacity of existing public systems, or otherwise requires their expansion, or requires the construction of major new facilities.

10-2 The project's demands for fuel or energy exceed existing supplies or otherwise causes supply and/or capacity constraints.

10-3 The project's demands exceed the capacity of existing utility systems or otherwise require the expansion or construction of major new facilities.

10-4 The project causes significant disruption of service.

10-5 The project's construction would interfere with the implementation of emergency response plans or emergency evacuation plans.

4.10.3 PROJECT DESIGN FEATURES

PDF 10-1 **Security Features.** Project design will facilitate implementation of "defensible space" measures to deter criminal activity within the project site. These measures may include, but are not limited to, strategically placed lighting, the use of plant materials to discourage window access, and ongoing maintenance of large or tall landscaping that could limit a law enforcement officer's ability to adequately visually survey the area while on patrol. This design feature will be verified by the California Construction Authority prior to issuance of the Notice to Proceed.

PDF 10-2 **Energy Efficient Appliances.** Pursuant to Title 24, California Code of Regulations (CCRs), the project design will incorporate the use of energy efficient appliances whenever feasible to minimize the ongoing use of electrical and natural gas resources. This design feature will be verified by the California Construction Authority during plan check (24 CCR).

4.10.4 IMPACTS AND MITIGATION MEASURES

Emergency Services

Police. Many factors are considered when formulating staffing needs for any geographic area. Issues such as preventative patrol time and administrative time are analyzed before a decision on staffing is made. As a general rule, staffing is based on calls for service and area population, resulting in a service level of approximately one sworn officer per 1,009 residents. Staffing may be adjusted depending on the needs of the area.

The North Operations Division of the Sheriff-Coroner Department states that the request for patrol deputies assigned to major events at the OCFEC has increased over the last 12 years. If the amphitheater is reopened and more large events are hosted at the OCFEC, there may be an additional increase in the required amount of direct law enforcement services needed in the area. However, the demand for additional services will first be met by the OCFEC Public Safety Department.

Therefore, any increase in demand for services from the Sheriff's Department will be minimized, and demand will not exceed the capacity of the Sheriff's Department to serve this geographic area. The proposed project will have a less than significant impact on police services.

The response from the Sheriff's Department dated September 6, 2002, from Lieutenant Dennis DeMaio is included in Appendix A.

Fire and Emergency Medical. The Costa Mesa Fire Department can adequately serve the proposed project. There are no current plans for expansion of fire/emergency services, and the proposed project will not create a need for increased staff. The response from the Costa Mesa Fire Department dated September 17, 2002, from Fire Captain Fred Segun is included in Appendix A. The project will have no significant impact on fire and emergency medical services.

Implementation of the following mitigation measures will further reduce any potential impacts to a level below significance.

Mitigation Measure 10-1 Prior to issuance of the Notice to Proceed, the California Construction Authority shall submit to the Deputy State Fire Marshal evidence of the on-site fire hydrant system. Provisions shall be made by the OCFEC/32nd DAA for the repair and maintenance of the system, in a manner meeting the approval of the Deputy State Fire Marshal.

Mitigation Measure 10-2 **Automatic Sprinkler System.**

A. All structures over 6,000 square feet shall be protected by an automatic sprinkler system, in a manner meeting the approval of the Deputy State Fire Marshal.

B. Prior to construction, the California Construction Authority shall submit plans for any required automatic fire sprinkler system in any structure to the Office of the State Fire Marshal for review and approval.

C. Prior to building occupancy, this system shall be operational in a manner meeting the approval of the Deputy State Fire Marshal.

Mitigation Measure 10-3

A. Prior to issuance of the Notice to Proceed, the California Construction Authority shall submit and obtain approval of plans for all roads, streets, and courts, public or private, from the Deputy State Fire Marshal. The plans shall include the following:

- The plan view and the sectional view shall indicate the grade and width of the street or court, measured flow line to flow line.
- All proposed fire apparatus turnarounds shall be approved by the Deputy State Fire Marshal and, if needed, clearly marked when a dead-end street exceeds 150 feet or when otherwise required.
- Applicable construction drawings, or other approved documents, shall contain provisions that prohibit obstructions, such as speed bumps/humps, control gates, or other modifications within said easement or access road, unless prior approval is obtained from the Deputy State Fire Marshal.
- The locations of red curbing and signage and a drawing of the proposed signage with the height, stroke, and color of lettering and the contrasting background color

B. The fire lanes shall be installed in accordance with the approved fire lane plan prior to building occupancy. The construction drawings or other approved documents shall contain a fire lane map and provisions that prohibit parking in the fire lanes. The method of enforcement shall be documented.

Mitigation Measure 10-4

Prior to issuance of the Notice to Proceed, plans for the fire alarm system shall be submitted by the California Construction Authority to the Deputy State Fire Marshal for review and approval. This system shall be operational in a manner meeting the approval of the Deputy State Fire Marshal prior to building occupancy.

Mitigation Measure 10-5

Prior to construction, the builder shall submit a letter on company letterhead to the OCFEC General Manager stating that water for firefighting purposes and all-weather fire protection access roads shall be in place and operational before any combustible material is placed on site. The California Construction Authority shall verify inclusion of this measure on construction plans and in all construction contracts prior to issuance of the Notice to Proceed.

Emergency Response Planning

The proposed project is not expected to interfere with any emergency response or emergency evacuation plans. Project construction and implementation will not preclude the site's use as an evacuation center, and staff will continue to be guided by the California State Emergency Plan, SEMS Guidelines, and standard operating procedures.

Schools and Libraries

The OCFEC is not a residential development, and the proposed project will not generate substantial new job opportunities that would lead to an increase in area population. It will not generate any significant impacts to the Newport-Mesa Unified School District or to the libraries located in the surrounding area.

Public Transit

The project will have no significant impact on transit facilities. In a letter dated October 21, 2002 (Appendix A), the OCTA states that the proposed project will not create a need to expand existing facilities or services.

Currently, the Orange County Transportation Authority (OCTA) provides adequate bus service to the project area via OCTA Bus Routes 47, 55, 173, and 178. The level of bus service is planned to be increased by up to 20 percent by the year 2005. Any increase in demand for service resulting from the proposed project will be accommodated by the planned increase in the level of service.

Electrical and Natural Gas Services

The project will not result in the need for substantial additions or alterations to electricity or natural gas utilities. Project Design Feature 10-2 will provide for energy efficient use of natural gas and electricity.

Electrical. The present electrical system supplies sufficient electricity to meet the needs of the proposed project. The underground lines are along the major established use corridors, so only minor relocations will be necessary. Only one existing transformer will have to be relocated, because it is located directly where the new administration building is proposed. The secondary electrical distribution system consists of services to individual facilities. New facilities will require extensions of existing service lines. Any abandoned lines will need to be removed.

Natural Gas. In a letter dated September 9, 2002 (Appendix A), The Gas Company indicated that it can adequately serve the proposed project without the installation of new facilities or lines.

Potential environmental effects of project demand for electricity and gas will be less than significant and, therefore, no additional conditions or mitigation measures will be required.

Telephone Service. Preliminary discussions with Pacific Bell Telephone company indicated that facilities currently serving the site would be adequate and would require only minor extensions of existing service lines.

Cable Service. The project site does not currently have cable service. Implementation of the proposed Master Plan would not require the addition of cable service.

Water Services

The project will not have a significant impact on new domestic or wastewater facilities.

Water services and facilities are provided by Mesa Consolidated Water District. Wastewater treatment will be provided by the Costa Mesa Sanitary District.

Domestic Water. The Mesa Consolidated Water District can provide adequate water supply for the proposed project and has indicated that the proposed project will not create a need to expand existing facilities or staff or to construct a new facility. The response from Mesa Consolidated Water District dated September 26, 2002, from General Manager Diana M. Leach is included in Appendix A.

The Orange County Water District, Municipal Water District of Orange County, and the Metropolitan Water District of Southern California have indicated that sufficient water will be available to support growth in Orange County and Southern California. The distribution system pipelines around the proposed project area are projected to operate at less than half of capacity in 2010.

Wastewater. In a letter dated September 25, 2002 (Appendix A), The Costa Mesa Sanitary District indicated that proposed project will not create a need for additional facilities or staff, adversely impact the types of services provided, or require relocation or realignment of the utility. Based on the layout, size, and use of the buildings proposed in the Master Plan, there are no anticipated negative impacts from the future sewer flows.

As previously mentioned, the western public sewer system serving the OCFEC is currently being improved as part of a joint effort between the CMSD and OCSD. The sewer improvements will be able to accommodate maximum and peak flows from the OCFEC. The eastern CMSD sewer also appears adequate to handle the Master Plan flows.

Mitigation Measure 10-6 will insure that sewer connections are installed safely and legally. Implementation of this mitigation measure will further reduce any potential impacts of the proposed project on the public sewer system to below a level of significance.

Mitigation Measure 10-6 Prior to issuance of any Notice to Proceed, the California Construction Authority shall provide the Costa Mesa Sanitary District with a map of the on-site sewers. All necessary permits required for connection to the sewer system will be obtained or renewed, as needed.

Solid Waste Services

The project will not result in the need for new solid waste disposal facilities.

The OCFEC is under contract with CR&R, which works in conjunction with the County of Orange Integrated Waste Management Department (IWMD) and the Costa Mesa Sanitary District to commit all of its waste to the County landfill system. The Frank R. Bowerman Landfill located in Irvine is the closest facility to the proposed project site. The Frank R. Bowerman Landfill opened in 1990 and is scheduled to operate until approximately 2024. The proposed project will not significantly change the amount of solid waste generated from that of existing conditions. In addition, there is adequate daily surplus capacity at the Frank R. Bowerman Landfill to accept solid waste generated from the proposed project, and the overall County landfill system has capacity in excess of 15 years; therefore, it may be assumed that adequate capacity for the proposed project is available for the foreseeable future. Impacts associated with this issue are less than significant.

Notwithstanding the availability of refuse capacity in the County system, the proposed project should comply with local waste reduction and recycling programs. These programs implement State law, which requires that each city and county demonstrate a 50 percent reduction in the amount of waste from that jurisdiction sent to a landfill each year. Waste haulers are expected to contribute by recycling residential and commercial waste they collect, and project developers are expected to employ measures to reduce the amount of construction-generated waste by 50 percent or more. The following mitigation measure will further reduce the project's contribution to the County landfill system.

Mitigation Measure 10-7 Prior to issuance of the Notice to Proceed, the OCFEC and/or the California Construction Authority shall prepare a Waste Management Plan for approval by the 32nd DAA Board of Directors. Final design plans shall clearly identify the current number, capacity, and location of all bin enclosures and recycle containers.

Information regarding landfill capacity was acquired via telephone from Mr. Tim Flanagan from Orange County Waste Management.

Phasing

All public service and utility improvements will be implemented in concert with the phasing program established by the Master Plan as administered by the 32nd DAA Board of Directors. Phasing will not

create any short-term or long-term impacts, nor will it require mitigation measures beyond those specified in the analysis above.

4.10.5 SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

With implementation of the Project Design Features and Mitigation Measures 10-1 through 10-7, all potential impacts to public services and utilities are reduced to below a level of significance.

4.11 RECREATION

4.11.1 EXISTING ENVIRONMENTAL SETTING

The OCFEC property is designated by the City of Costa Mesa as Fairgrounds with an Institutional and Recreational Zoning District. The site is not a traditional open space such as a city park, and has limited public access, with public use mainly occurring at Fair time or during specific events. The facility is a regional recreational resource by virtue of its on-site improvements such as the equestrian center, exhibition buildings, stages, and arena, but the facility typically charges a fee for admittance to the property or for use of many of the facilities. Events occurring at the site offer a wide range of recreational opportunities that appeal to a wide range of users (from local to regional). Some of the events that occur at the facility are the Orange County Fair, Youth Expo, Speedway racing, Scottish Highland Games, Orange County Marketplace and Farmer's Market, novelty shows, exhibitions, and cultural festivals. Over 4 million people attended events at the Fairgrounds in 2001, and approximately 900,000 people attended the 2002 summer Fair.

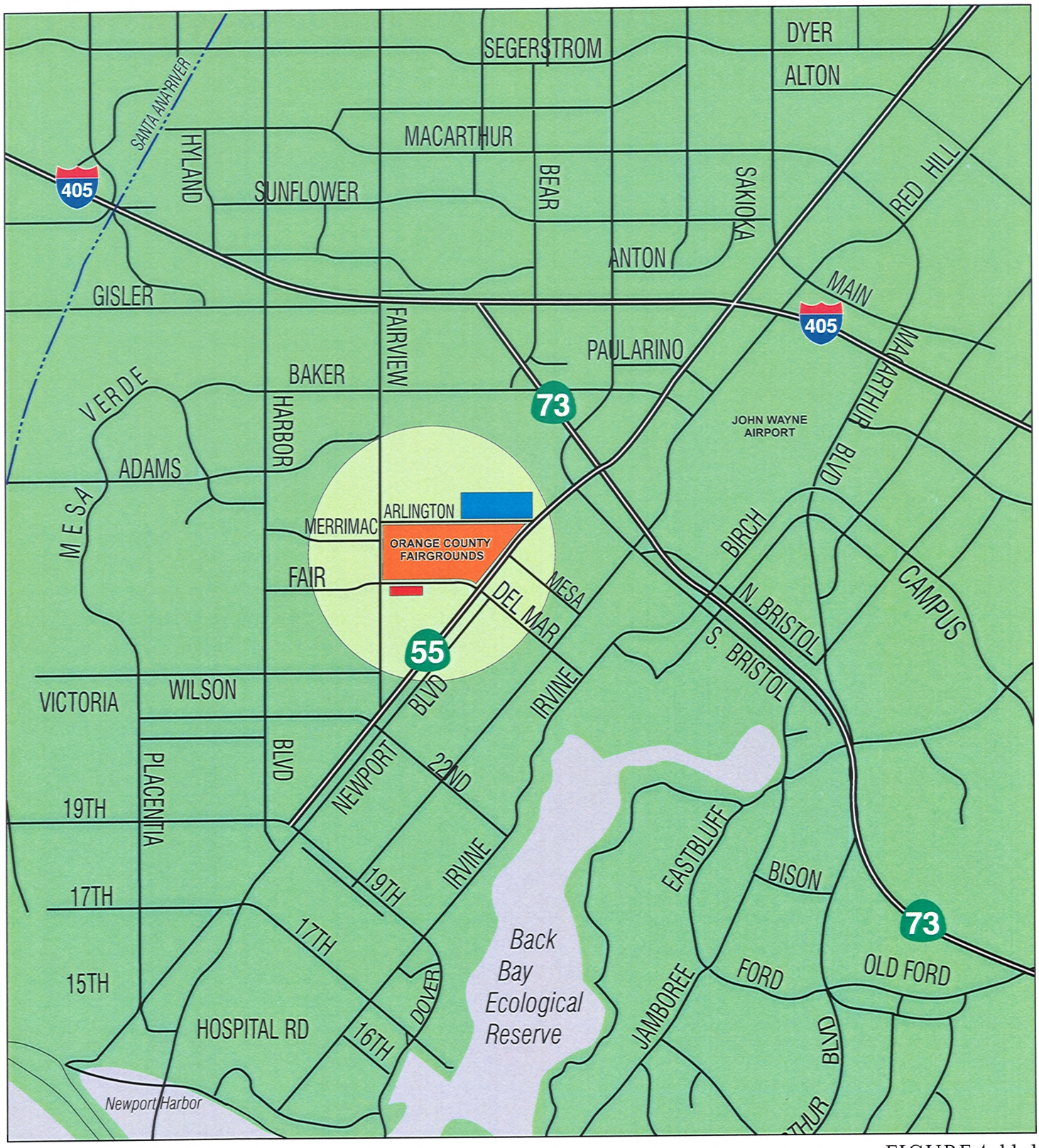
Existing recreational facilities within the City of Costa Mesa include highly developed, active recreation sites to low activity, passive open space. There are approximately 1,700 acres of land dedicated to recreational use within the city limits. The City of Costa Mesa currently operates and maintains 27 public parks, one public golf course, and public landscaping and parkway areas. In addition, the City maintains two community centers that provide significant opportunities for active recreation, social services, and community recreation programs. The Santa Ana River Bike Trail traverses the western edge of the city boundary along the Santa Ana River. The City of Costa Mesa Recreation Element states that land currently used for public parks and open space facilities should be preserved, and citizens should be provided with a high quality environment through the development of recreation resources.

Parks

There are two parks within a one-mile radius of the center of the proposed project site. Figure 4.11.1 depicts each park in relationship to the site. The two parks within the area are as follows:

- **TeWinkle Park**—A 44.67 acre park with a baseball field, two softball fields, utility field, 12 tennis courts, one basketball court, one volleyball court, playground area, one par course, picnic area, amphitheater, bleachers, lake, gazebo, and restroom facilities.
- **Civic Center Park**—A 9.48 acre open space area with no on-site parking or other ancillary facilities.

Mixed use facilities are provided at some school sites within the City, and public use of those facilities is available when the school district is not using them.



LSA

TeWinkle Memorial Park

Civic Center Park

N

Scale in Miles

0 1

SOURCE: OCTA

I:\Ccz030\G\Park Radius.cdr (10/2/02)

FIGURE 4.11.1

Orange County Fair and Exposition Center

Parks Within One Mile Radius of Project Area

Public Trails

Public trails are also available within the City limits for recreation. These trails are connected to a countywide network of trails. The County of Orange has a regional network of 348 miles of existing and proposed riding and hiking trails. These trails are designed to meet the needs of equestrians, pedestrians (walkers, hikers, and joggers), and non-motorized bikers. The Orange County General Plan adopted a series of goals, objectives, and policies aimed at directing the development and operation of the countywide public network of trails based on the Master Plan of Regional Riding and Hiking Trails (MPRRHT).

Bikeways are classified into three types—Class I, Class II, and Class III. These classifications are defined below.

Class I Bikeway—Typically called a bike path, this provides for bicycle travel on a paved right-of-way completely separated from any street or highway. These are particularly popular with novice cyclists and avoided by experienced cyclists because they can become overly popular and crowded.

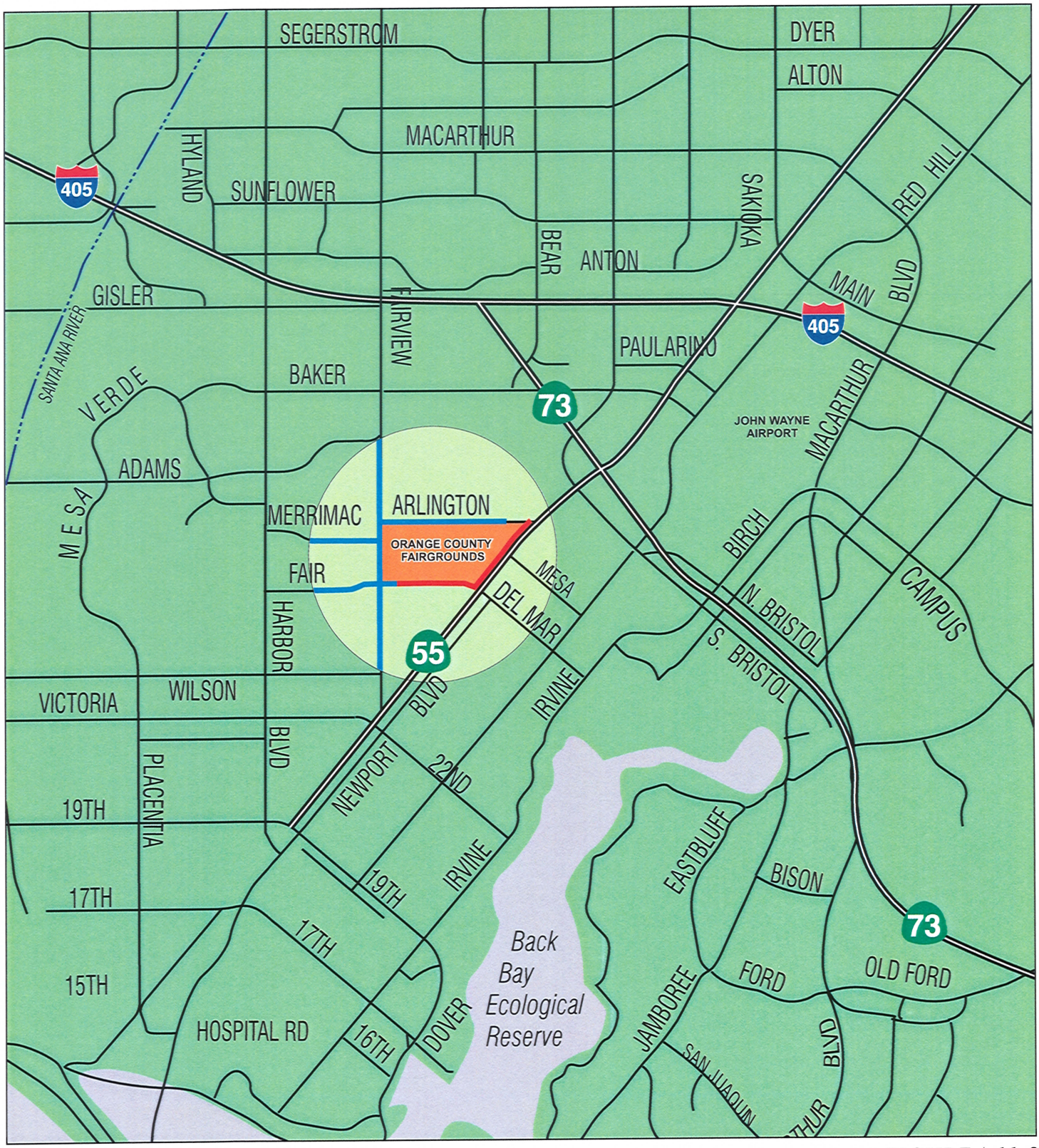
Class II Bikeway—Often referred to as a bike lane, it provides a striped and stenciled lane for one-way travel on a street or highway. When properly designed, bike lanes help improve the visibility of bicyclists.

Class III Bikeway—Generally referred to as a bike route, it provides for shared use with pedestrian or motor vehicle traffic and is identified only by signing. This is recommended when there is enough right-of-way for bicyclists and motorists to safely pass.

Bikeways help reduce air pollution, traffic congestion, parking congestion, and noise. Class I bikeways in particular, because they are off-road and suitable for bicyclist and pedestrians with a wide range of ages and abilities, serve to encourage bicycling and walking as alternative modes of transportation and recreation.

Per the MPRRHT and the Orange County Transportation Authority Bikeway Strategic Plan, a Class I bikeway exists along half of the south side and all of the east side of the Fairgrounds. Class II bikeways exist along the north, west, and south sides of the Fairgrounds. Figure 4.11.2 depicts the bike trails surrounding the Fairgrounds. The MPRRHT and other documents prepared by the Riding and Hiking Trails Advisory Committee propose more direct trail linkages to the Fairgrounds.

At this time, the Fairgrounds is designated on the MPRRHT as the start/end point (staging area) for the Santa Ana Heights Trail. Originally it was envisioned that this trail would extend from the Upper Newport Bay Ecological Preserve to the Fairgrounds and would allow trail users to reach the extensive trail and bikeway network in the Back Bay area. At this time, the existing trail terminates approximately one mile east of the Fairgrounds. Though approved, the trail has not been extended westerly along the Delhi Channel due to lack of funding. At this time, there is no known date of construction for this portion of the trail. The County of Orange has recently contacted the Santa Ana Country Club to discuss the possibility of extending the trail from the Delhi Channel through the



LSA

Class I Bikeway

Class II Bikeway

N

Scale in Miles

0 1

SOURCE: OCTA

I:\Ccz030\G\Bike Trails.cdr (10/2/02)

FIGURE 4.11.2

Orange County Fair and Exposition Center

Existing Bike Trails
Adjacent to the Project Site

Santa Ana Country Club golf course; however, no agreement has been reached at the time of this report's preparation.

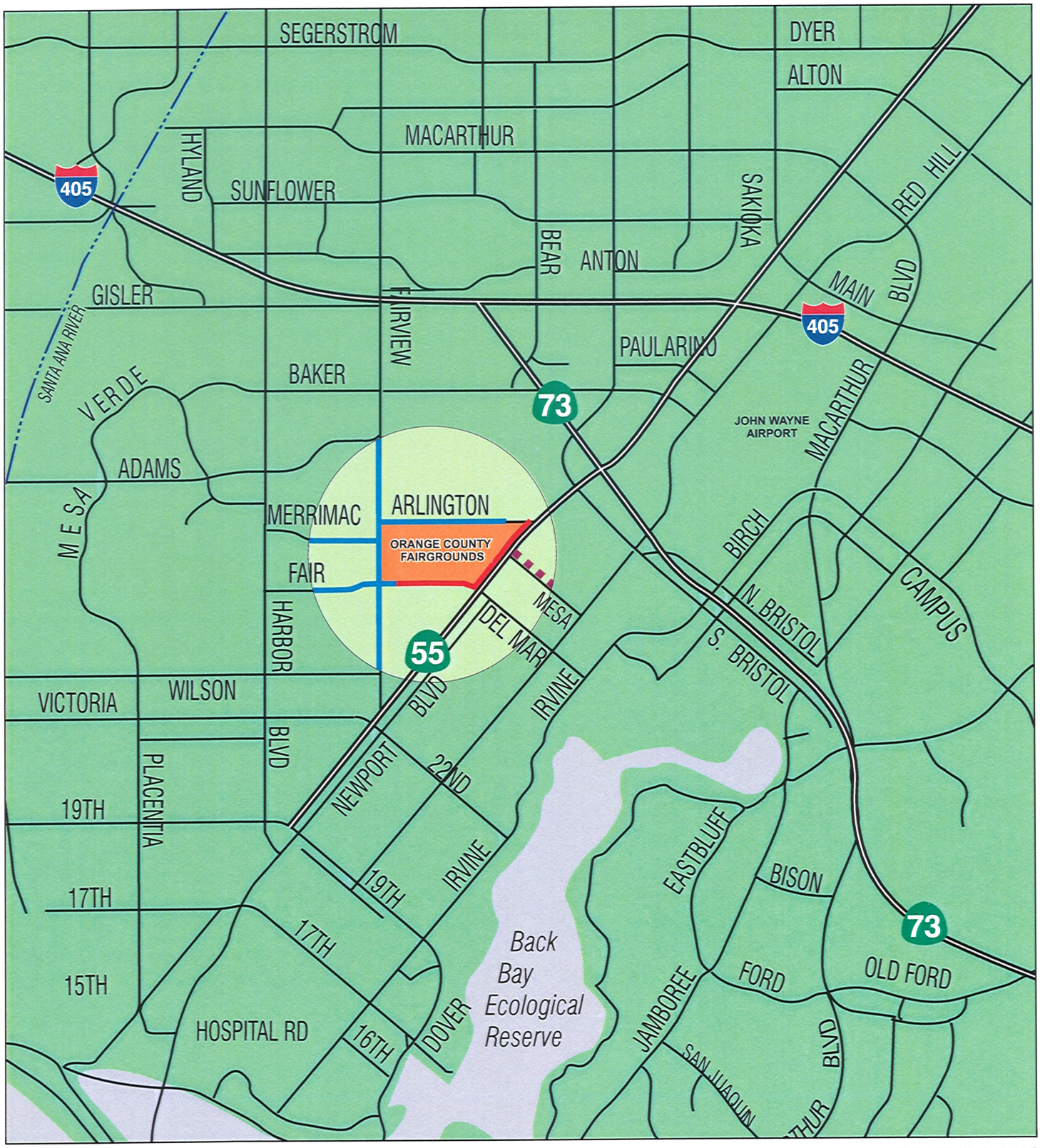
Full build-out of this trail would require extending the trail on the east side of Mesa Drive to its intersection with Newport Boulevard. Additional right-of-way may be warranted to construct the trail along Mesa Drive before reaching the Mesa Drive/Newport Boulevard intersection. Properties adjacent to this segment of Mesa Drive are fully improved. Therefore, acquiring additional right-of-way for the purposes of constructing a trail may prove financially challenging. Although the proposed OCFEC Master Plan does not preclude this connection, County staff indicated that the necessary link on the Mesa Drive overpass crossing State Route 55 (SR-55) may not be desirable for equestrian users because of space constraints and the intensity of high speed vehicular traffic. Significant reconstruction of the Mesa Drive overpass would be required in order to ensure the safety of trail users at this location. Again, such improvement represents an equally significant use of financial resources and thereby may prove to be infeasible in the near and foreseeable future. Finally, a safe trail crossing Newport Boulevard would need to be established to complete the link to the Fairgrounds. Figure 4.11.3 illustrates the linkages proposed by the County MPRRHT.

This particular planned trail has existed on the County maps for many years. The proposed Master Plan does not infer or suggest any changes to the County's maps. However, it is outside of the direct responsibility of the OCFEC to pursue these off-site trail improvements. There is nothing in the Master Plan that would prohibit this site from being used as a future staging area should the County trail ever be connected across SR-55.

The Fairgrounds is also located within two miles of the Santa Ana River Bikeway, a regional Class I bikeway that extends from the Riverside County border to the Pacific Ocean. The OCFEC supports the County and City in their ongoing efforts to implement Class I bikeways between the project site and the Santa Ana River Bikeway. As previously noted, there are bikeways on all sides of the Fairgrounds, including the accommodation of Class I facilities along the entire Newport Boulevard segment and the majority of the Fair Drive segment. The ongoing discussion regarding Arlington Drive improvements may include the refinement and further definition of the bikeway along the site's northern edge.

Equestrian Center

The Equestrian Center (EQC) on the Orange County Fairgrounds was built in two phases—1979 and 1982. It provides both boarding and training opportunities consisting of stalls, rings, and other ancillary facilities. The EQC currently has six riding arenas, 276 box stalls (168 border/trainer stalls, 86 horse show stalls, and 22 tackrooms) and additional support facilities including lunging arenas, turnouts, hotwalkers, and washracks. A full list of facilities found at the existing EQC is included in Table 4.11.A.



LSA

Class I Bikeway

Class II Bikeway

Proposed Riding & Hiking Trail

Scale in Miles

0 1

SOURCE: OCTA

FIGURE 4.11.3

Orange County Fair and Exposition Center

Existing and Proposed Trails Adjacent to the Project Site

I:\Ccz030\G\Ride Hike Trails.cdr (10/2/02)

Table 4.11.A: Existing EQC Facilities List

Number	Existing EQC Facilities
6	Riding Arenas
1	Lunging Arena
4	Turnouts
5	Hotwalkers
90	Cross-Ties
2	Washracks (16 horses)
46	Storage Lockers
1	Maintenance Shop
2	Farrier Areas
1	Shavings/Manure Pit
1	Covered Feed Area
1	Covered Storage Area
1	Open Storage Area
1	Operations Yard
1	Office
1	Restroom
1	Courtyard
276	Box Stalls
	• 168 Boarder/Trainer Stalls
	• 86 Horse Show Stalls
	• 22 Tackrooms (3 EQC, 17 Trainer, 2 Horse Show)
26	End-Cap Tackrooms

The EQC hosts an annual 4H show at the Fair and a master showmanship event in the spring. There are also several small shows produced by independent promoters during the year.

Maximum long-term boarding capacity at the EQC is 168 horses. There are currently 101 horses boarded at the facility, leaving 40 percent of the stalls vacant. The physical arrangement of the EQC

will allow for a 50 percent reduction in acreage without displacing any of the horses currently boarded at the facility.

4.11.2 THRESHOLDS OF SIGNIFICANCE

The following impact significant criteria apply to the evaluation of potential project effects on public access and recreation:

11-A Increases the demand for neighborhood or regional parks or other recreational facilities beyond existing capacities.

11-B Substantially affects existing recreational opportunities or facilities/areas.

11-C Conflicts or is inconsistent with the City General Plan and resource document policies pertaining to recreation and public access, including Transportation and Circulation, Growth Management Element, and Open Space and Recreation Element.

4.11.3 PROJECT DESIGN FEATURES

The project will implement the recreational policies established in the OCFEC Master Plan. The following project design features address specific recreational and public access components of the proposed project.

PDF 11-1 **Bicycle Access.** Entrances will be designed in such a way that bicyclists will have easy access, including off-road connections, between the bikeways and bike racks/lockers. This design feature will be verified by the California Construction Authority prior to issuance of the Notice to Proceed.

PDF 11-2 **Bike Racks.** Bike racks and/or lockers will be installed near all Fair entrances and in other appropriate areas throughout the site. This design feature will be verified by the California Construction Authority prior to issuance of the Notice to Proceed.

4.11.4 IMPACTS AND MITIGATION MEASURES

Effects Determined to Be Less Than Significant

The potential recreation impacts are not considered to be significant because:

- The project is neither a residential development nor a project that would generate substantial new job opportunities. For this reason, the proposed project will not cause demand for neighborhood or regional parks or other recreational facilities to rise beyond existing capacity (Criterion 11-A).
- The proposed project does not substantially affect or reduce existing recreational facilities to a service level below what is needed to meet current demand. The OCFEC is a regional

recreational facility; the proposed project expands its capacity to serve regional recreational needs. Although the proposed Master Plan does call for a reduction in the size of the EQC, horses presently boarded at the site will not be displaced. Reducing the size of the EQC also does not reduce the range of activities occurring at this facility (Criterion 11-B). Table 4.11.B offers a comparison of the facilities found at the existing EQC and those facilities that will be present at the EQC once the Master Plan is implemented.

Table 4.11.B: Existing EQC and EQC after Master Plan Implementation

Facilities	Existing	Master Plan
Riding Arenas	6	5
Lunging Arena	1	1
Turnouts	4	5
Hotwalkers	5	3
Cross-Ties	90	50
Washracks (16 horses)	2 (16 horses)	1 (8 horses)
Storage Lockers	46	46
Maintenance Shop	1	1
Farrier Areas	2	1
Shavings/Manure Pit	1	1
Covered Feed Area	1	1
Covered Storage Area	1	1
Open Storage Area	1	1
Operations Yard	1	1
Office	1	1
Restroom	1	1
Courtyard	1	1
Box Stalls	276	188
• Boarder/Trainer Stalls	168	140
• Horse Show Stalls	86	35
• Tackrooms (3 EQC, 17 Trainer, 2 Horse Show)	22	13
End-Cap Tackrooms	26	18 (9 double tackrooms)

- The proposed OCFEC Master Plan is consistent with the City of Costa Mesa's General Plan designation and adheres to its designated use as a Fairground facility. It will not disrupt any regional trails maintained by the county (Criterion 11-C). There is nothing in the Master Plan

that would prohibit this site from being used as a future staging area should the County trail ever be connected across SR-55.

Phasing

Project phasing will not create any short- or long-term impacts for recreation, and will not trigger the need for mitigation. The OCFEC will continue to function as a regional recreational facility during each phase of project implementation.

4.11.5 SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

The proposed project will not result in any significant unavoidable adverse impacts to recreational facilities.

4.12 TRAFFIC AND CIRCULATION

The purpose of this section is to assess the potential circulation impacts associated with the implementation of the Orange County Fair and Exposition Center (OCFEC) Master Plan project. Figure 4.12.1 illustrates the location of the proposed project and intersections analyzed in this report. The OCFEC Traffic Impact Analysis (November 4, 2002) is included in Appendix G.

Analysis of potential traffic impacts resulting from the proposed OCFEC Master Plan included analysis of traffic conditions resulting from the Fair event, an interim event, and typical weekend peak hour traffic conditions. Potential mitigation measures for significant circulation impacts created by the project are recommended where warranted.

The approach used in the Traffic Impact Analysis Report prepared for this EIR followed the methodology used in the Traffic Analysis Report prepared in support of the 1996 Settlement Agreement between OCFEC and the City of Costa Mesa regarding the proposed 1991 Master Plan. In that analysis, the same three traffic conditions were analyzed and presented. The scope of work for that analysis was developed in cooperation with the staffs and administrations of both the City of Costa Mesa and OCFEC. The objective was to evaluate the potential for circulation impacts that could occur during regular operations of the Fairgrounds and to disclose the conditions that could occur during scheduled events.

The methodology and findings of the 1996 traffic analysis were the subject of a joint meeting between the Fair Board and the City Council and were approved by both boards in a public hearing. The approved findings and adopted recommendations set the maximum attendance parameters for events at the Fairgrounds. These attendance parameters are included in the Settlement Agreement for the 1991 Master Plan.

The proposed action is to adopt and implement a new Master Plan, thus changing the conditions on site and the potential attendance and parking envelope. The proposed Master Plan is a modification to the previous Master Plan and Settlement Agreement that necessitated analysis of the potential traffic effects caused by the changes at a level commensurate with the original 1996 agreement/ regulation. The Traffic Impact Analysis provided in this report and in the Traffic Impact Analysis Report follows that of the original for consistency and to allow for a comparison of baseline conditions.

4.12.1 EXISTING CONDITIONS

Existing Roadway System

The OCFEC is bounded by Arlington Drive on the north, Newport Boulevard on the east, Fair Drive on the south, and Fairview Road on the west. Regional access to the Fairgrounds is provided

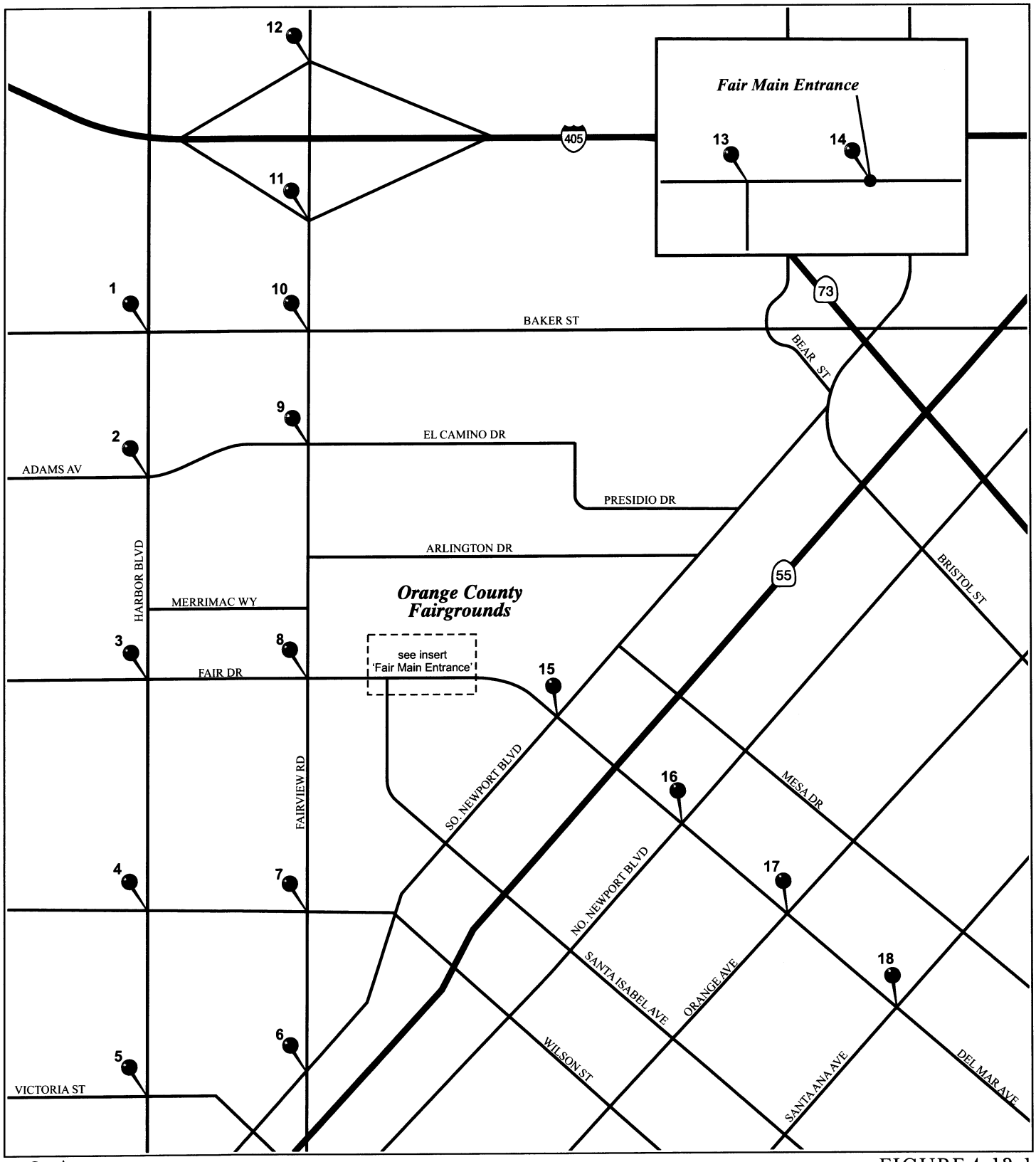


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FIGURE 4.12.1

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NOT TO SCALE

Study Intersection Number

Orange County Fair and Exposition Center
Study Area Intersections

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primarily via State Route 55 (SR-55) at the interchanges of Fair Drive/Del Mar Avenue and 22nd Street/Victoria Street. Access from Interstate 405 (I-405), which is approximately one mile north of the Fairgrounds, is provided via full interchanges at Fairview Road and Harbor Boulevard. The following is a description of freeways, streets, and roads in the vicinity of the site.

Interstate 405 (I-405). I-405 provides east-west travel in the vicinity of the project. I-405 is located north of the project site and provides regional circulation to the project via an interchange at Fairview Road.

State Route 55 (SR-55). SR-55 is a six lane north-south freeway that is located alongside the eastern edge of the Fairgrounds. The freeway terminates at 19th Street, and SR-55 continues south as Newport Boulevard.

State Route 73 (SR-73). SR-73 is a six and eight lane freeway/tollway that originates at Fairview Road and I-405 and terminates at Avery Parkway at I-5 in South Orange County.

Harbor Boulevard. Harbor Boulevard is a north-south roadway providing access to the project site. Harbor Boulevard is a six-lane roadway and is classified as an Augmented Major Arterial Highway on the City of Costa Mesa Master Plan of Highways.

Fair Drive. Fair Drive is an east-west, four-lane primary arterial located along the southern portion of the project site. The Main Gate (No. 1) is located on Fair Drive across from the eastern entrance to City Hall. The Vanguard Gate (No. 2) is also located on Fair Drive, directly across from Vanguard Way.

Fairview Road. Fairview Road provides north-south circulation west of the project site. Fairview Road is a six-lane roadway and is classified as a Major Arterial Highway (Augmented Major in some sections) on the City of Costa Mesa Master Plan of Highways. Gate 3 is located on this road at the intersection of Merrimac Way. The Princeton Gate is also located along Fairview across from Princeton Lane.

Newport Boulevard. Newport Boulevard is a north south, four to six lane secondary arterial located along the eastern edge of the Fairgrounds. The northbound and southbound directions of Newport Boulevard are split by the SR-55 freeway, with the southbound lanes adjacent to the site.

Merrimac Way. Merrimac Way is an east-west, four lane arterial located to the west of the site. Merrimac Way connects Harbor Boulevard with Fairview Road and provides a gated entrance into the project.

Arlington Drive. Arlington Drive is a two and four lane primary arterial bounding the north side of the site. Several gated entries, mostly designated for service, exhibitors, and equestrian entry/exit, are located along Arlington Drive.

Vanguard Way. Vanguard Way is a north-south collector street located south of the site between Fair Drive and Newport Boulevard. Vanguard extends from its signalized intersections with Fair Drive (north terminus) to its intersection with Newport Boulevard (south terminus).

Baker Street. Baker Street provides east-west circulation north of the project site. Baker Street is a four lane roadway and is classified as a Secondary Arterial Highway west of Harbor Boulevard and a Primary Arterial Highway east of Harbor Boulevard on the Costa Mesa Master Plan of Highways. Baker Street has augmented sections in the vicinity of its intersections with Harbor Boulevard and Fairview Road.

Adams Avenue. Adams Avenue provides east-west circulation in the vicinity of the project site. Adams Avenue is a six lane roadway and is classified as a Major and an Augmented Major on the City of Costa Mesa Master Plan of Highways.

Existing Traffic Volumes

The OCFEC has existed at is present location for over 50 years and has become a year-round exhibition, conference, and event center. The function of the OCFEC is to host the annual summer Fair. There are, however, events and exhibitions occurring on the Fairgrounds each weekend, including the Orange County Marketplace, a swap meet that occupies a portion of OCFEC's parking lot.

To determine project impact on the surrounding circulation system, daily levels of service were calculated for study area roadways, and peak hour levels of service were examined at study area intersections for three development scenarios in two time horizons. The intersection capacity utilization (ICU) methodology for signalized intersections and the Transportation Research Board, *Highway Capacity Manual* (HCM2000) operations methodology for unsignalized intersections were used to determine levels of service at study area intersections. The ICU methodology compares the volume to capacity (v/c) ratio for each intersection approach to determine the overall ICU. The resulting ICU is expressed in terms of level of service (LOS), where LOS A represents free flow activity and LOS F is overcapacity operation. Volume to capacity ratios at study area roadways are based upon standard roadway capacities outlined in the City of Costa Mesa General Plan Circulation Element.

The three operational scenarios analyzed were: typical weekend, interim event, and Fair event. Saturday mid-day was selected for the peak hour analysis because the peak hour of ambient traffic in the study area, when the OCFEC will make its greatest contribution of traffic to the surrounding

roadways, is at that time. Daily traffic counts were also taken Thursday through Sunday during each of the three scenarios. These scenarios are described in detail below.

Typical Weekend. The typical weekend event at the Fairgrounds includes small events and exhibitions and the Orange County Marketplace (Marketplace), which is scheduled almost every Saturday and Sunday except for weekends when the Orange County Fair is scheduled. In addition to the Marketplace, four other events were scheduled on the Fairgrounds during the period of the analysis when ambient "existing" counts were collected. The typical weekend traffic base is therefore defined as the Marketplace with small interim events. The events occurring during the typical weekend traffic counts were the Orange County Marketplace (September 7–8, 2002), the Craft and Sewing Festival (September 5–7, 2002), the Quilt Show (September 6–7, 2002), and the Bridal Show (September 8, 2002). Traffic counts for the typical weekend are provided in Appendix A of the Traffic Impact Analysis (November 4, 2002).

Interim Event. For purposes of this analysis, interim events are those events scheduled by OCFEC and promoted by other interests. These can be commercial ventures, such as computer shows or product roll-outs, or organizational ventures, such as the Scottish Games or the All American Boys Choir. For this analysis, the interim event observed at the Fairgrounds was the Indian Pow Wow, which was scheduled from August 23–25, 2002. This event had an attendance of approximately 25,000 people; it was considered a significant interim event, with one of the highest weekend attendances. Other events taking place during the Indian Pow Wow were the Marketplace, Mini Meet West 2002 (August 24–25, 2002), and the Marketplace Car Show (August 25, 2002). The traffic count data for the interim event is provided in Appendix B of the Traffic Impact Analysis (November 4, 2002).

Fair Event. The Fair event observed focused on the last Saturday of the annual Orange County Fair, which was scheduled from July 12–28, 2002. The traffic count surveys of this event occurred during the last four days of the Fair, which was expected to be the peak attendance period. The traffic count data for the Fair event is provided in Appendix A of the Traffic Impact Analysis (November 4, 2002).

Levels of Service

Existing Typical Weekend Level of Service. The typical weekend condition is based on traffic volumes associated with the Orange County Marketplace event. It has also been noted that other smaller events were taking place during the data collection for the typical event. Daily traffic counts were collected from Thursday to Sunday, September 5–8, 2002. The average of these four days of traffic counts is presented in this section. Saturday peak hour intersection traffic volumes were collected on Saturday, September 7, 2002. Typical weekend traffic volumes are illustrated in Figure 4.12.2. Typical weekend peak hour levels of service for study area intersections are presented in Table 4.12.A.

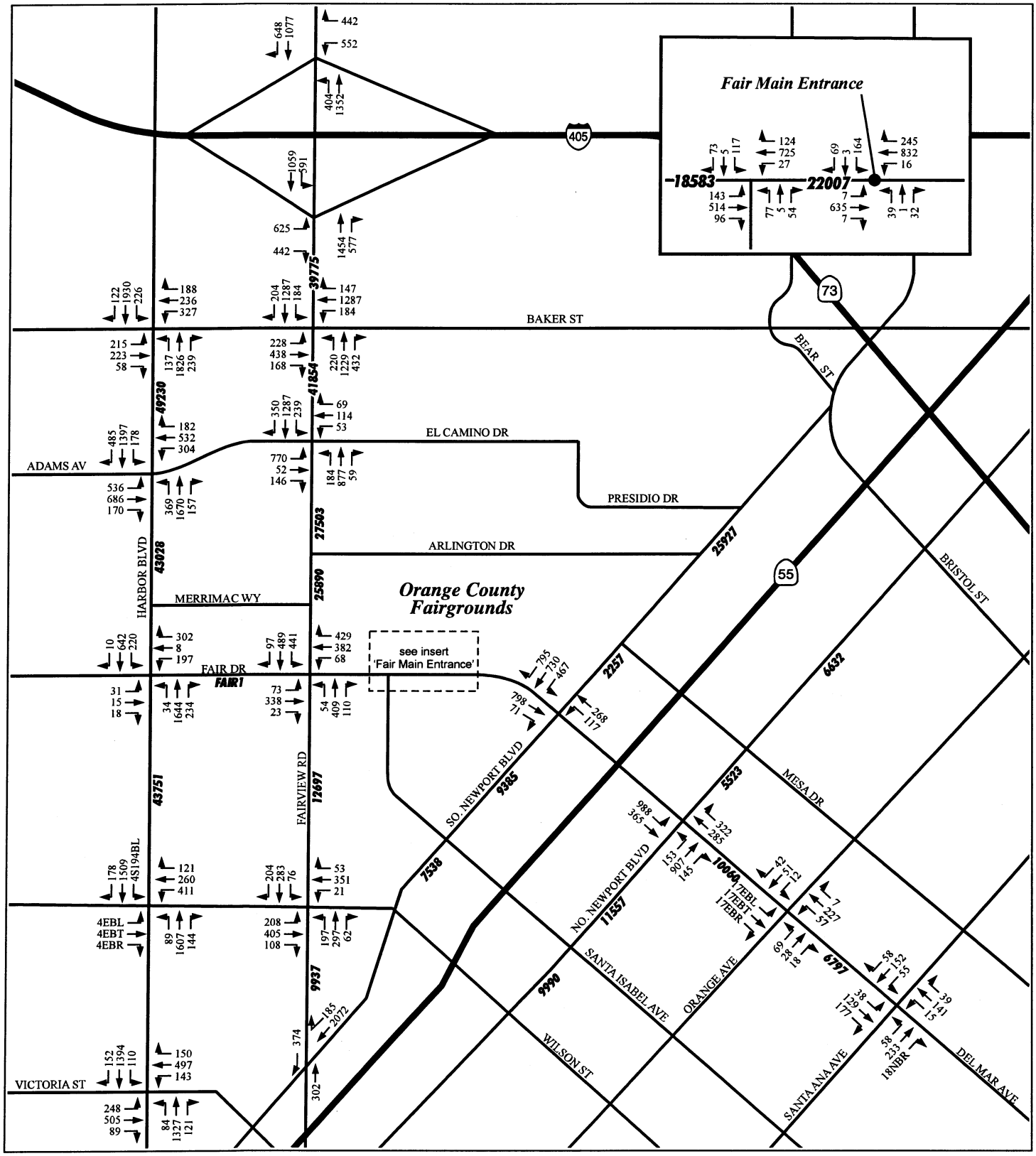

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FIGURE 4.12.2

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NOT TO SCALE

Orange County Fair and Exposition Center

Existing Typical Weekend Condition:
Weekend Daily & Peak Hour Volumes

I:\CCZ030\G\Existing Traffic Cond.cdr (12/20/02)

Table 4.12.A: Existing Typical Weekend Peak Hour Levels of Service

Intersection	V/C or Delay	LOS	Intersection	V/C or Delay	LOS
1. Harbor Blvd/Baker St	0.55	A	10. Fairview Rd/Baker St	0.59	A
2. Harbor Blvd/Adams Ave	0.73	C	11. Fairview Rd/I-405 SB Ramp	0.74	C
3. Harbor Blvd/Fair Drive	0.53	A	12. Fairview Rd/I-405 NB Ramp	0.83	D
4. Harbor Blvd/Wilson St	0.68	B	13. Vanguard Way/Fair Dr	0.47	A
5. Harbor Blvd/Victoria St	0.63	B	14. Fair Main Entry/Fair Dr	0.39	A
6. Fairview Rd/Newport Blvd	0.64	B	15. Newport Blvd (S)/Fair Dr	0.50	A
7. Fairview Rd/Wilson St	0.63	B	16. Newport Blvd (N)/Del Mar Ave	0.76	C
8. Fairview Rd/Fair Dr	0.54	A	17. Orange Ave/Del Mar Ave	10.1 sec.	B
9. Fairview Rd/Adams Ave	0.62	B	18. Santa Ana Ave/Del Mar Ave	11.2 sec.	B

As indicated in Table 4.12.A, during the typical weekend, all study area intersections operated at satisfactory levels of service. Daily roadway traffic volumes for the typical weekend are presented in Table 4.12.B.

As indicated in Table 4.12.B, during a typical weekend event, all roadway segments in the vicinity of the study area currently operate within the theoretical capacities for each roadway. As previously noted, Newport Boulevard operates as a one-way couplet and does not have an adopted theoretical daily capacity that reflects its actual operation. Newport Boulevard is best evaluated by reviewing peak hour intersection operations.

Existing Interim Event Levels of Service

The interim event condition is based on the traffic contribution associated with the Indian Pow Wow event that took place from Friday to Sunday, August 23–25, 2002. Other events taking place during the Indian Pow Wow were the Marketplace, Mini Meet West 2002 (August 24–25, 2002), and the Marketplace Car Show (August 25, 2002). Daily traffic volumes were collected from Thursday to Sunday, August 22–25, 2002. The average of these four days of traffic counts is presented in this section. Saturday peak hour intersection traffic volumes were collected on August 24, 2002. Interim event traffic volumes are illustrated in Figure 4.12.3. Existing interim event levels of service for study area intersections are presented in Table 4.12.C.

As indicated in Table 4.12.C, during the interim event, all study area intersections operated at satisfactory levels of service. Daily roadway traffic volumes during the interim event are presented in Table 4.12.D.

Table 4.12.B: Existing Typical Weekend Daily Roadway Traffic Volumes

	Street	Segment	Volume	Capacity	V/C
1	Fair Drive	Harbor to Fairview	10,032	38,000	0.26
2	Fair Drive	Fairview to Vanguard	18,583	38,000	0.49
3	Fair Drive	Vanguard to Newport Blvd	22,007	38,000	0.58
4	Del Mar Avenue	Newport Blvd to Orange	10,060	38,000	0.26
5	Del Mar Avenue	Orange to Santa Ana	6,197	38,000	0.16
6	Fairview Road	I-405 to Baker	39,775	56,000	0.71
7	Fairview Road	Baker to Adams	41,854	56,000	0.75
8	Fairview Road	Adams to Arlington	27,503	56,000	0.49
9	Fairview Road	Arlington to Fair	25,890	56,000	0.46
10	Fairview Road	Fair to Wilson	12,697	56,000	0.23
11	Fairview Road	Wilson to Newport	9,937	56,000	0.18
12	Newport Boulevard (North)	Bristol to Mesa	6,632	N/A*	N/A*
13	Newport Boulevard (North)	Mesa to Fair	5,523	N/A*	N/A*
14	Newport Boulevard (North)	Fair to Vanguard	11,557	N/A*	N/A*
15	Newport Boulevard (North)	Vanguard to Fairview	9,990	N/A*	N/A*
16	Newport Boulevard (South)	Bristol to Mesa	25,927	N/A*	N/A*
17	Newport Boulevard (South)	Mesa to Fair	22,575	N/A*	N/A*
18	Newport Boulevard (South)	Fair to Vanguard	9,385	N/A*	N/A*
19	Newport Boulevard (South)	Vanguard to Fairview	7,538	N/A*	N/A*
20	Harbor Boulevard	Wilson to Fair	43,751	68,000	0.64
21	Harbor Boulevard	Fair to Adams	43,028	68,000	0.63
22	Harbor Boulevard	Adams to Baker	49,230	68,000	0.72

* This segment of roadway is a one-way couplet. Neither the City of Costa Mesa nor the County of Orange has an established standard for the capacity of a one-way couplet.

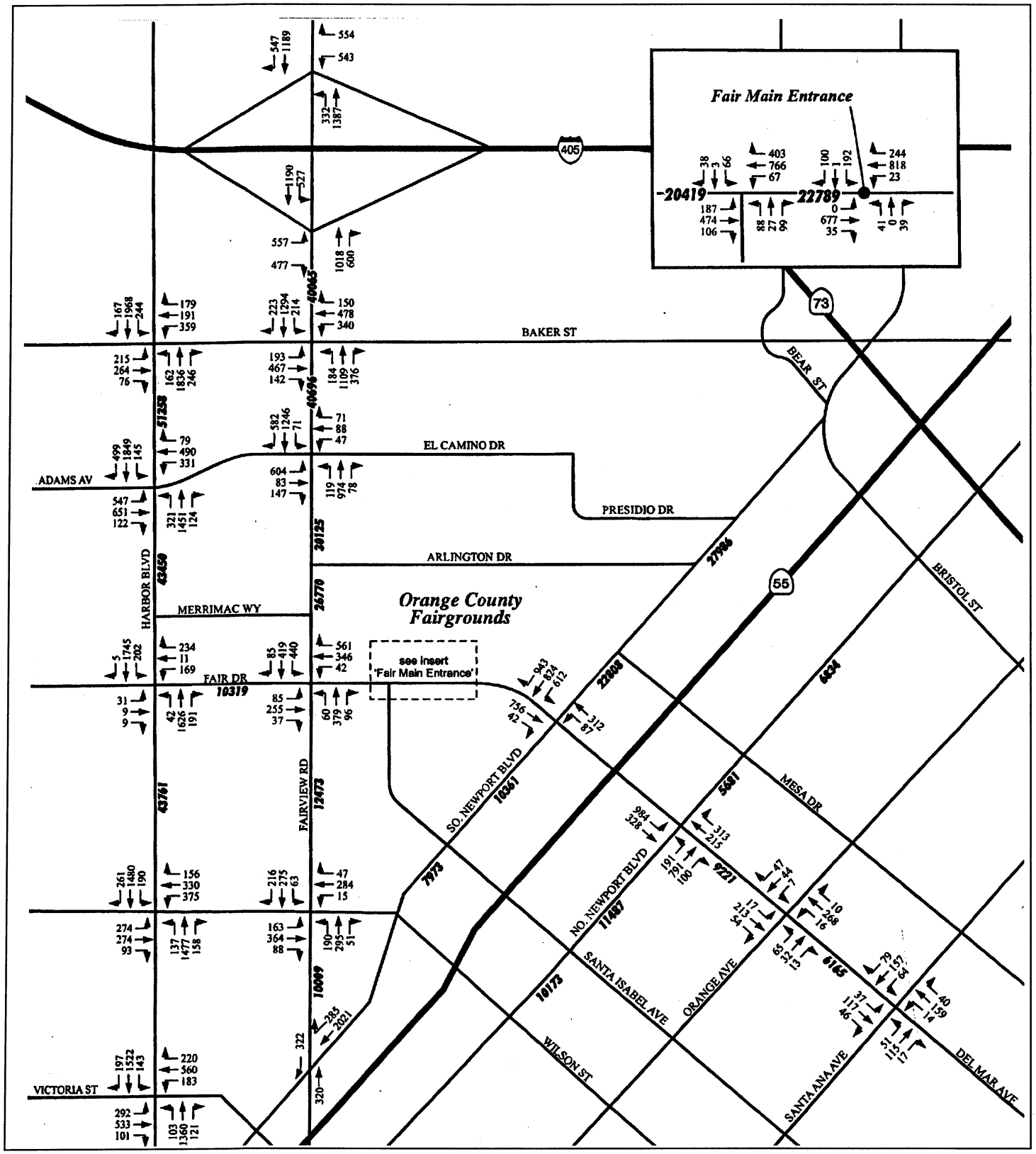

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FIGURE 4.12.3

NOT TO SCALE

Orange County Fair and Exposition Center
Existing Interim Event Condition:
Weekend Daily & Peak Hour Volumes

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Table 4.12.C: Existing Interim Event Peak Hour Levels of Service

Intersection	V/C or Delay	LOS	Intersection	V/C or Delay	LOS
1. Harbor Blvd/Baker St	0.58	A	10. Fairview Rd/Baker St	0.55	A
2. Harbor Blvd/Adams Ave	0.77	C	11. Fairview Rd/I-405 SB Ramp	0.71	C
3. Harbor Blvd/Fair Drive	0.50	A	12. Fairview Rd/I-405 NB Ramp	0.72	C
4. Harbor Blvd/Wilson St	0.66	B	13. Vanguard Way/Fair Dr	0.54	A
5. Harbor Blvd/Victoria St	0.72	C	14. Fair Main Entry/Fair Dr	0.40	A
6. Fairview Rd/Newport Blvd	0.62	B	15. Newport Blvd (S)/Fair Dr	0.56	A
7. Fairview Rd/Wilson St	0.56	A	16. Newport Blvd (N)/Del Mar Ave	0.73	C
8. Fairview Rd/Fair Dr	0.62	B	17. Orange Ave/Del Mar Ave	10.2 sec.	B
9. Fairview Rd/Adams Ave	0.65	B	18. Santa Ana Ave/Del Mar Ave	11.1 sec.	B

Table 4.12.D: Existing Interim Event Daily Roadway Traffic Volumes

	Street	Segment	Volume	Capacity	V/C
1	Fair Drive	Harbor to Fairview	10,319	38,000	0.27
2	Fair Drive	Fairview to Vanguard	20,419	38,000	0.54
3	Fair Drive	Vanguard to Newport Blvd	22,789	38,000	0.60
4	Del Mar Avenue	Newport Blvd to Orange	9,221	38,000	0.24
5	Del Mar Avenue	Orange to Santa Ana	6,165	38,000	0.16
6	Fairview Road	I-405 to Baker	40,065	56,000	0.72
7	Fairview Road	Baker to Adams	40,696	56,000	0.73
8	Fairview Road	Adams to Arlington	30,125	56,000	0.54
9	Fairview Road	Arlington to Fair	26,770	56,000	0.48
10	Fairview Road	Fair to Wilson	12,473	56,000	0.22
11	Fairview Road	Wilson to Newport	10,009	56,000	0.18
12	Newport Boulevard (North)	Bristol to Mesa	6,834	N/A*	N/A*
13	Newport Boulevard (North)	Mesa to Fair	5,681	N/A*	N/A*
14	Newport Boulevard (North)	Fair to Vanguard	11,487	N/A*	N/A*
15	Newport Boulevard (North)	Vanguard to Fairview	10,173	N/A*	N/A*
16	Newport Boulevard (South)	Bristol to Mesa	27,986	N/A*	N/A*
17	Newport Boulevard (South)	Mesa to Fair	22,808	N/A*	N/A*
18	Newport Boulevard (South)	Fair to Vanguard	10,361	N/A*	N/A*
19	Newport Boulevard (South)	Vanguard to Fairview	7,973	N/A*	N/A*
20	Harbor Boulevard	Wilson to Fair	43,761	68,000	0.64
21	Harbor Boulevard	Fair to Adams	43,450	68,000	0.64
22	Harbor Boulevard	Adams to Baker	51,358	68,000	0.76

* This segment of the roadway is a one-way couplet. Neither the City of Costa Mesa nor the County of Orange has an established standard for the capacity of a one-way couplet.

As indicated in Table 4.12.D, during the interim events, all roadway segments in the vicinity of the study area are currently operating within the designated theoretical capacity for each facility type. As previously noted, Newport Boulevard operates as a one-way couplet and does not have an adopted theoretical daily capacity that reflects its actual operation. Newport Boulevard is best evaluated by reviewing peak hour intersection operations. Comparison of the existing interim daily traffic volumes to the existing typical daily volumes shows an increase in daily traffic on the roadways surrounding OCFEC, particularly Fair Drive from Fairview to Newport Boulevard, Fairview Road from Fair to Adams, and Newport Boulevard South from Bristol to Vanguard. Conversely, the OCFEC interim events appear to have little effect on daily traffic as one moves away from the site. The interim event traffic is quickly dispersed or moved to the freeways once it leaves the site.

Existing Fair Event Level of Service

Existing daily and peak hour traffic volumes during the 2002 Fair event are illustrated in Figure 4.12.4. Daily traffic volumes were collected from Thursday to Sunday, July 25–28, 2002. The average of these four days of traffic counts is presented in this section. Saturday peak hour intersection traffic volumes were collected on July 27, 2002. The traffic volume surveys were conducted during the final weekend of the Fair, when attendance is highest. Existing Fair event peak hour levels of service for study area intersections are presented in Table 4.12.E.

As indicated in Table 4.12.E. during the 2002 Fair event, all study area intersections operated at satisfactory levels of service. It should be noted that even though the calculations indicate satisfactory levels of service in the study area during the Fair event, this does not accurately reflect the actual conditions. During the Fair event, the circulation system surrounding the OCFEC accommodates a significant amount of traffic and congestion is experienced. This congestion occurs for a limited amount of time, and only during peak Fair times (i.e., weekend nights, during popular concert events, etc.). Currently, transportation system management (TSM) measures are implemented during the Fair event. These measures are a cooperative effort between OCFEC and the City of Costa Mesa and include signal timing modification, traffic police presence, channelization of traffic using cones, and direction by Fair staff.

Daily roadway traffic volumes during the Fair event are presented in Table 4.12.F.

As indicated in Table 4.12.F, all roadway segments in the vicinity of the study area are currently operating within their adopted capacity values. As previously noted, Newport Boulevard operates as a one-way couplet and does not have an adopted theoretical daily capacity that reflects its actual operation. Newport Boulevard is best evaluated by reviewing peak hour intersection operations. Comparison of the existing Fair daily traffic volumes to the existing typical and existing interim daily volumes shows an increase in daily traffic on the roadways surrounding the OCFEC, particularly Fair Drive from Fairview to Santa Ana, Fairview Road from I-405 to Fair, Newport Boulevard from Bristol to Fair, and Harbor Boulevard from Fair to Baker. The magnitude of the Fair event can be seen when comparing the Fair event daily traffic volumes to the typical weekend daily traffic volumes. Roadway segments as far away as Fairview Road at I-405 and Harbor Boulevard at Adams experience an increase of more than 6,000 daily trips during the Fair event.

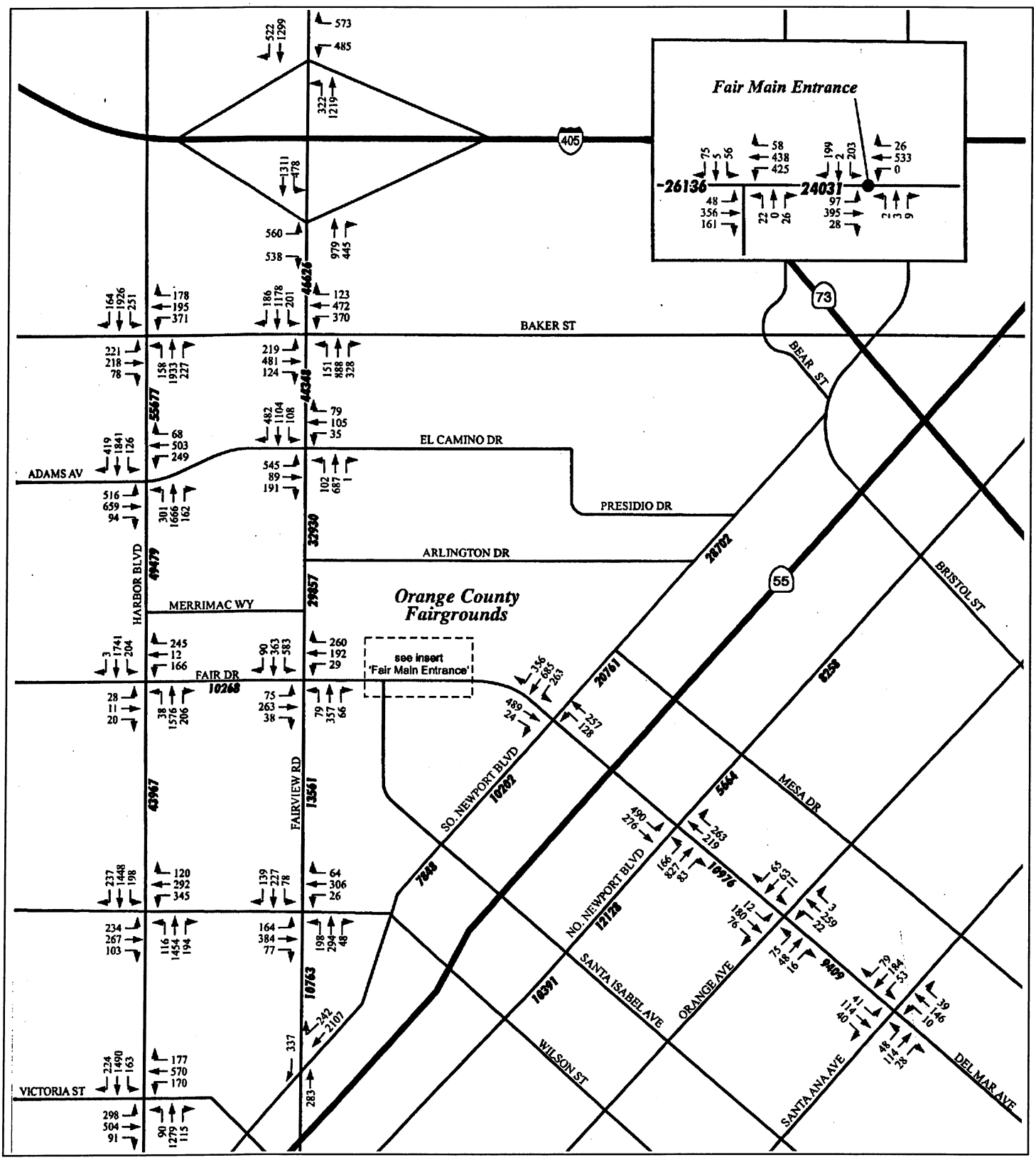

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FIGURE 4.12.4

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NOT TO SCALE

Orange County Fair and Exposition Center

Existing Annual Fair Event Condition:
Weekend Daily & Peak Hour Volumes

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Table 4.12.E: Existing Fair Event Peak Hour Levels of Service

Intersection	V/C or Delay	LOS	Intersection	V/C or Delay	LOS
1. Harbor Blvd/Baker St	0.59	A	10. Fairview Rd/Baker St	0.53	A
2. Harbor Blvd/Adams Ave	0.73	C	11. Fairview Rd/I-405 SB Ramp	0.60	B
3. Harbor Blvd/Fair Drive	0.49	A	12. Fairview Rd/I-405 NB Ramp	0.71	C
4. Harbor Blvd/Wilson St	0.65	B	13. Vanguard Way/Fair Dr	0.51	A
5. Harbor Blvd/Victoria St	0.70	C	14. Fair Main Entry/Fair Dr	0.36	A
6. Fairview Rd/Newport Blvd	0.63	B	15. Newport Blvd (S)/Fair Dr	0.37	A
7. Fairview Rd/Wilson St	0.54	A	16. Newport Blvd (N)/Del Mar Ave	0.54	A
8. Fairview Rd/Fair Dr	0.47	A	17. Orange Ave/Del Mar Ave	10.5 sec.	B
9. Fairview Rd/Adams Ave	0.57	A	18. Santa Ana Ave/Del Mar Ave	11.1 sec.	B

Table 4.12.F: Existing Fair Event Daily Roadway Traffic Volumes

	Street	Segment	Volume	Capacity	V/C
1	Fair Drive	Harbor to Fairview	10,268	38,000	0.27
2	Fair Drive	Fairview to Vanguard	26,136	38,000	0.69
3	Fair Drive	Vanguard to Newport Blvd	24,031	38,000	0.63
4	Del Mar Avenue	Newport Blvd to Orange	10,976	38,000	0.29
5	Del Mar Avenue	Orange to Santa Ana	9,409	38,000	0.25
6	Fairview Road	I-405 to Baker	46,626	56,000	0.83
7	Fairview Road	Baker to Adams	44,348	56,000	0.79
8	Fairview Road	Adams to Arlington	32,930	56,000	0.59
9	Fairview Road	Arlington to Fair	29,857	56,000	0.53
10	Fairview Road	Fair to Wilson	13,561	56,000	0.24
11	Fairview Road	Wilson to Newport	10,763	56,000	0.19
12	Newport Boulevard (North)	Bristol to Mesa	8,258	N/A*	N/A*
13	Newport Boulevard (North)	Mesa to Fair	5,664	N/A*	N/A*
14	Newport Boulevard (North)	Fair to Vanguard	12,128	N/A*	N/A*
15	Newport Boulevard (North)	Vanguard to Fairview	10,391	N/A*	N/A*
16	Newport Boulevard (South)	Bristol to Mesa	28,702	N/A*	N/A*
17	Newport Boulevard (South)	Mesa to Fair	20,761	N/A*	N/A*
18	Newport Boulevard (South)	Fair to Vanguard	10,202	N/A*	N/A*
19	Newport Boulevard (South)	Vanguard to Fairview	7,848	N/A*	N/A*
20	Harbor Boulevard	Wilson to Fair	43,967	68,000	0.65
21	Harbor Boulevard	Fair to Adams	49,479	68,000	0.73
22	Harbor Boulevard	Adams to Baker	55,677	68,000	0.82

* This segment of roadway is a one-way couplet. Neither the City of Costa Mesa nor the County of Orange has an established standard for the capacity of a one-way couplet.

4.12.2 THRESHOLDS OF SIGNIFICANCE

The OCFEC is a state owned property under the jurisdiction of the 32nd District Agricultural Association (32nd DAA). As such, significance criteria are first obtained from applicable State requirements and regulations. CEQA requirements for traffic analysis have been consulted and incorporated where appropriate. In the spirit of cooperation, however, level of service criteria from the City of Costa Mesa has been included in the impact significance criteria for this project.

Significant adverse impacts are defined as those unsatisfactory conditions that are forecast to occur with repeated frequency during average conditions. For purposes of this analysis, capital improvements (i.e., roadway widening, intersection lane improvements) will be recommended as mitigation measures only for level of service impacts shared by all three Fairgrounds event scenarios. These conditions reflect the greatest frequency that an impact may be present and benefit from the improvements.

Typically, roadway design and implementation of roadway widening to mitigate circulation impacts are intended to satisfy the 30th highest hour design traffic volume. Beyond this criterion, the benefits of the mitigation measure are not justified by sufficient traffic or the expense of the improvement.

The effects of the proposed project on the transportation and circulation system may be considered to be significant if:

12-A The project causes a roadway or intersection to operate at a LOS greater than LOS D, which corresponds to an intersection capacity utilization (ICU) of 0.90, without mitigation being prescribed;

12-B The project increases the LOS of an intersection from LOS D to LOS E or F without mitigation being prescribed;

12-C The project poses a safety hazard from design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);

12-D The project substantially increases traffic hazards during construction; routing of large trucks or construction equipment through residential neighborhoods;

12-E The project results in inadequate emergency access to the project site or nearby uses;

12-F The project results in insufficient parking capacity on site or off site;

12-G The project poses a hazard or barrier for pedestrians or bicyclists; and

12-H The project is inconsistent or incompatible with local or regional transportation plans and policies.

4.12.3 PROJECT DESIGN FEATURES

There are no specific project design features related to traffic and circulation identified in this EIR.

4.12.4 IMPACTS AND MITIGATION MEASURES

Project Traffic Generation

The OCFEC currently generates trips that are accounted for in the existing traffic settings. Therefore, the trip generation associated with the Master Plan would be the change in traffic associated with the changes in the facilities. To determine the growth in traffic volumes that would be expected with the implementation of the Master Plan, the existing and proposed on-site uses were examined to determine whether they would be a contributing factor, supporting factor, or a constraining factor in vehicle trip generation. For example, exhibit buildings were considered to be a contributing factor in vehicle trip generation for both the Fair and interim event scenarios because the number of patrons who can be accommodated at a given event (i.e., the Fair itself or other exhibits such as the computer fair or gun show) is directly affected by the size of the exhibit buildings. Another contributing factor is the length of the Fair event. Currently, the Fair event lasts for 17 days. However, it will be extended to 21 days as part of the Master Plan, thus allowing more visitors while distributing patrons over a longer period. Open space, kitchen areas, and storage areas do not provide a "draw," and therefore will not directly affect the number of patrons at an event; thus, they would be considered supporting factors.

One component of the Master Plan that would potentially generate traffic is the reopening of the Pacific Amphitheater. The amphitheater will be used during the Fair event for concerts; however, its patrons will be mainly Fair attendees; therefore, the traffic associated with a concert during the Fair event is already accounted for in the Fair trip generation. The Fair, however, operates only for a few weeks per year, while the potential for interim events and concerts occurs all year long. Concert events not associated with the Fair have the greatest potential to impact the surrounding roadways and intersections. For this reason, the traffic associated with a concert event outside of a Fair weekend is analyzed as part of the interim event. Aside from a Fair event, an interim event and a concert event on the same weekend would be the worst-case traffic scenario.

The main constraining factor was considered to be on-site parking spaces. Once the contributing, supporting, and constraining factors were identified for the Fair and interim events, the growth in square footage of contributing land uses was identified in each scenario.

The land use calculations showing increases in contributing, supporting, and constraining factors is provided in Appendix E of the Traffic Impact Analysis (November 4, 2002). It was found that the attendance capacity of the OCFEC would be increased by 39 percent for the interim event and 37 percent for the Fair event.

Fair Event Trip Generation

The existing trip generation for the Fair was calculated based upon the attendance at the 2002 Fair event: approximately 900,000 persons, or 52,941 persons per day during the 17-day event. The existing daily attendance results in the generation of 21,176 daily trips. Based on the changes in land use that contribute to the Fair event trip generation, a growth potential of 37 percent was identified for the Fair. When applied to the 2002 attendance of 900,000 persons, this results in a total Fair attendance of approximately 1,233,000 persons. When the extended Fair period of 21 days is applied, an average daily attendance of 58,715 persons, or 23,486 daily trips, would be expected with the Master Plan. This represents an average increase in daily trip generation of 2,310 daily trips.

The percent of daily trips occurring in the peak hour was determined based upon Figures 14 and 15 from the 1996 LSA study that showed the hourly parking accumulation and inbound and outbound traffic flow for a Fair event. These figures are provided in Appendix E. According to the data, approximately 19 percent of daily traffic will occur in the peak hour, with 68 percent inbound and 32 percent outbound.

The project trip generation increase with the proposed Master Plan is shown in Table 4.12.G.

Table 4.12.G: Project Trip Generation Increase Over Existing Settings

Scenario	Weekend ADT	Saturday Peak Hour		
		In	Out	Total
Typical Weekend	0	0	0	0
Interim Event	1,580	221	221	442
Interim Event with Concert	12,434*	221	221	442
Fair Event	2,310	299	140	439

* The significant generator is the concert event, which would add daily traffic outside peak hours.

It should be noted that Table 4.12.G presents the increase in vehicle trips expected to be generated over the existing condition. As shown in the table, a moderate increase is expected for all scenarios with the exception of the Interim Event with Concert scenario. This is because the fair and interim events are currently occurring and are accounted for in the existing traffic counts. The amphitheater, however, is not currently operational and does not generate trips in the existing traffic counts. Therefore, the entire trip generation of the amphitheater, not just the increase in trips must be added to the existing conditions.

Project Trip Distribution and Assignment

Local trip distribution patterns for the Orange County Fair and Exposition Center Master Plan were developed based on the approved 1996 LSA traffic analysis. The project trip generation volumes identified for the Interim and Fair event scenarios in Table 4.12.G were assigned to the arterial street

system based on the project trip distribution percentages. Figures 4.12.5 and 4.12.6 illustrate the project trip distribution percentages and the resulting traffic volumes generated by the implementation of the Master Plan in the interim, and Fair event scenarios.

To evaluate the impacts of the traffic generated by the Orange County Fair and Exposition Center Master Plan project on the study area roadways and intersections, intersection and roadway levels of service were analyzed for the Fair event, interim event, and typical weekend in both the existing and cumulative horizons. The results of this impact analysis are shown below.

Existing Typical Weekend plus Master Plan Level of Service

As stated in the trip generation discussion, the typical weekend events (i.e., Orange County Marketplace, smaller interim events, etc.) are assumed to continue at their present operational levels (as presented in the Existing Typical Weekend section). For this reason it can be inferred that implementation of the Master Plan would not result in a change in operation at the surrounding intersections and roadways and that no mitigation measures are required to offset project related impacts in the existing plus project conditions. Based on these assumptions, the proposed project will not meet or exceed Impact Significance Criteria 12-A and 12-B.

Existing Interim Event plus Master Plan Levels of Service

Traffic volumes for the Master Plan interim event were added to the existing interim event traffic volumes to arrive at the existing interim event plus Master Plan daily and peak hour traffic volumes, which are illustrated in Figure 4.12.7. Existing interim event plus Master Plan levels of service for study area intersections are presented in Table 4.12.H. As stated in the Trip Generation Section, the amphitheater would not affect the peak hour analysis as no concert traffic would be experienced during the mid-day peak hours; therefore, the peak hour presented in Table 4.12.H also represents the operation of the amphitheater during a concert event.

As indicated in Table 4.12.H, when Master Plan interim event project traffic is added to the existing interim event traffic volumes, the study area intersections are forecast to continue to operate at satisfactory levels of service. Daily roadway traffic volumes during the interim event with the Master Plan are presented in Table 4.12.I. Therefore, implementation of the proposed project will not create significant impacts to the existing conditions. No mitigation measures are required to offset project related impacts in the existing plus project conditions. Based on these results, the proposed project will not meet or exceed Impact Significance Criteria 12-A and 12-B.

As indicated in Table 4.12.I, with the addition of traffic from the Master Plan interim event project, all roadway segments will continue to operate within their designated capacity. All of the roadway segments will experience a moderate increase in traffic with the addition of traffic generated by the Master Plan. The greatest increase occurs on Fair Drive and Newport Boulevard adjacent to the Fairgrounds. The daily traffic associated with the amphitheater concert event was added to the

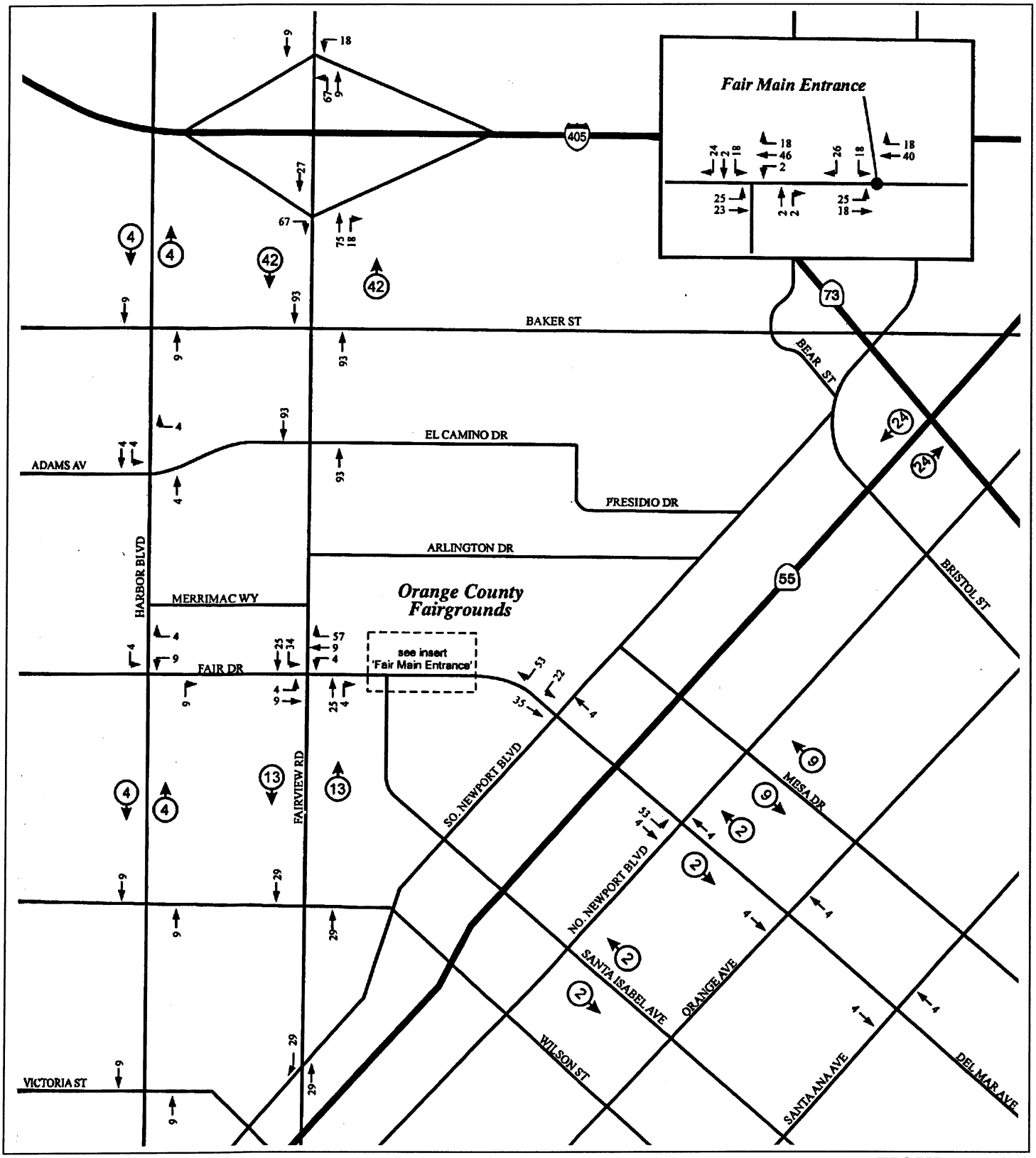

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FIGURE 4.12.5

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NOT TO SCALE

Orange County Fair and Exposition Center
Existing Interim Event Plus
Master Plan Trip Distribution and Assignment

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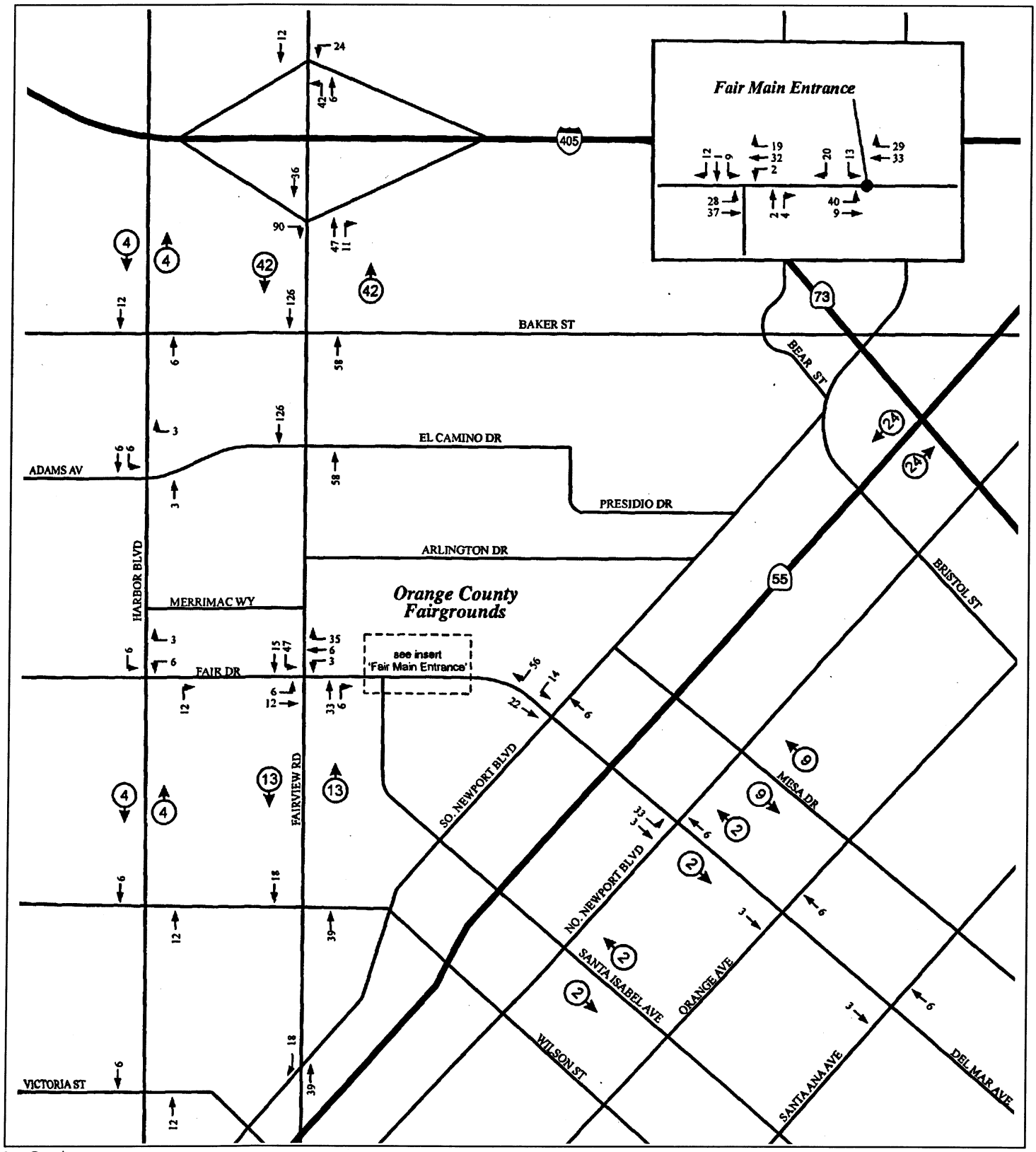

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FIGURE 4.12.6

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Orange County Fair and Exposition Center
Existing Annual Fair Event Plus
Master Plan Trip Distribution and Assignment

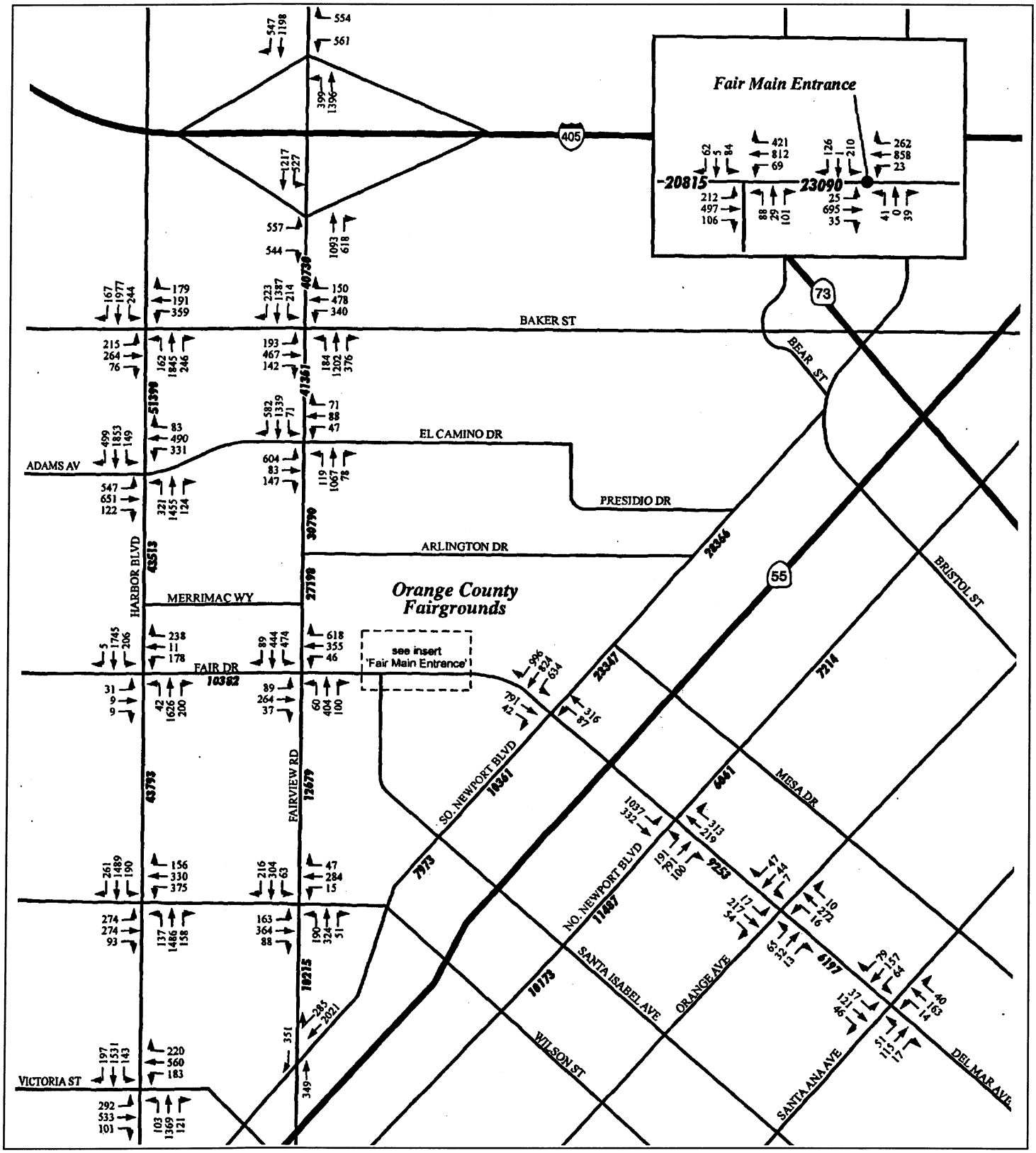

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FIGURE 4.12.7

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NOT TO SCALE

Orange County Fair and Exposition Center

Existing Interim Event Plus Master Plan Condition:
Weekend Daily & Peak Hour Volumes

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Table 4.12.H: Existing Interim Event Plus Master Plan Peak Hour Levels of Service

Intersection	V/C or Delay	LOS	Intersection	V/C or Delay	LOS
1. Harbor Blvd/Baker St	0.58	A	10. Fairview Rd/Baker St	0.57	A
2. Harbor Blvd/Adams Ave	0.78	C	11. Fairview Rd/I-405 SB Ramp	0.73	C
3. Harbor Blvd/Fair Drive	0.50	A	12. Fairview Rd/I-405 NB Ramp	0.77	C
4. Harbor Blvd/Wilson St	0.67	B	13. Vanguard Way/Fair Dr	0.58	A
5. Harbor Blvd/Victoria St	0.71	C	14. Fair Main Entry/Fair Dr	0.44	A
6. Fairview Rd/Newport Blvd	0.64	B	15. Newport Blvd (S)/Fair Dr	0.58	A
7. Fairview Rd/Wilson St	0.56	A	16. Newport Blvd (N)/Del Mar Ave	0.75	C
8. Fairview Rd/Fair Dr	0.67	B	17. Orange Ave/Del Mar Ave	10.3 sec.	B
9. Fairview Rd/Adams Ave	0.65	B	18. Santa Ana Ave/Del Mar Ave	11.2 sec.	B

Table 4.12.I: Interim Event Plus Master Plan Daily Traffic Volumes

	Street	Segment	Volume	Capacity	V/C
1	Fair Drive	Harbor to Fairview	10,382	38,000	0.27
2	Fair Drive	Fairview to Vanguard	20,815	38,000	0.55
3	Fair Drive	Vanguard to Newport Blvd	23,090	38,000	0.61
4	Del Mar Avenue	Newport Blvd to Orange	9,253	38,000	0.24
5	Del Mar Avenue	Orange to Santa Ana	6,197	38,000	0.16
6	Fairview Road	I-405 to Baker	40,730	56,000	0.73
7	Fairview Road	Baker to Adams	41,361	56,000	0.74
8	Fairview Road	Adams to Arlington	30,790	56,000	0.55
9	Fairview Road	Arlington to Fair	27,198	56,000	0.49
10	Fairview Road	Fair to Wilson	12,679	56,000	0.23
11	Fairview Road	Wilson to Newport	10,215	56,000	0.18
12	Newport Boulevard (North)	Bristol to Mesa	7,214	N/A*	N/A*
13	Newport Boulevard (North)	Mesa to Fair	6,061	N/A*	N/A*
14	Newport Boulevard (North)	Fair to Vanguard	11,487	N/A*	N/A*
15	Newport Boulevard (North)	Vanguard to Fairview	10,173	N/A*	N/A*
16	Newport Boulevard (South)	Bristol to Mesa	28,366	N/A*	N/A*
17	Newport Boulevard (South)	Mesa to Fair	23,347	N/A*	N/A*
18	Newport Boulevard (South)	Fair to Vanguard	10,361	N/A*	N/A*
19	Newport Boulevard (South)	Vanguard to Fairview	7,973	N/A*	N/A*
20	Harbor Boulevard	Wilson to Fair	43,793	68,000	0.64
21	Harbor Boulevard	Fair to Adams	43,513	68,000	0.64
22	Harbor Boulevard	Adams to Baker	51,390	68,000	0.76

* This segment of roadway is a one-way couplet. Neither the City of Costa Mesa nor the County of Orange has an established standard for the capacity of a one-way couplet.

interim event plus Master Plan daily roadway traffic volumes. The resulting traffic volumes are illustrated in Figure 4.12.8. The daily roadway traffic volumes for the interim event with the Master Plan and concert are shown in Table 4.12.J.

As indicated in Table 4.12.J, with the addition of concert traffic to the interim event plus Master Plan scenario, all roadway segments will continue to operate at satisfactory levels of service. With a concert event, a significant increase in traffic will occur along Fairview from Fair to I-405, and on Newport Boulevard and Fair Drive adjacent to the Fairgrounds. This is due to concert patrons arriving via I-405 and I-55. Concert traffic will occur during the weekend evening when ambient traffic is low. Therefore, some congestion may occur around OCFEC before and after the concert; however, a significant traffic impact would not be anticipated. No mitigation measures are required to offset project related impacts in the existing plus project conditions, because the proposed project will not meet or exceed Impact Significance Criteria 12-A and 12-B.

Existing Fair Event Plus Master Plan Levels of Service

Traffic volumes for the Master Plan Fair event were added to the existing Fair event traffic volumes to arrive at the existing Fair event plus Master Plan daily and peak hour traffic volumes, which are illustrated in Figure 4.12.9. Existing Fair event plus Master Plan peak hour levels of service for study area intersections are presented in Table 4.12.K.

As indicated in Table 4.12.K, when Master Plan project traffic is added to the existing Fair event traffic volumes, the study area intersections are forecast to continue to operate at satisfactory levels of service. As previously noted, even though the level of service calculations forecast satisfactory levels of service in the study area during the Fair event, this does not accurately reflect the actual conditions. During the Fair event, the circulation system surrounding the OCFEC will accommodate a significant amount of traffic, and congestions will be experienced in the area surrounding the OCFEC during a Fair event. This congestion will occur for a limited time, and only during peak Fair times (i.e. weekend nights, during popular concert events, etc.). Currently, transportation system management (TSM) measures are implemented during the Fair event and will be continued under the Master Plan. These TSM measures include signal modification, traffic police presence, channelization of traffic using cones, and direction by Fair staff. Daily roadway traffic volumes for the Fair event plus Master Plan scenario are presented in Table 4.12.L.

With the addition of the Master Plan, traffic volumes will increase moderately throughout the study area. The greatest increase is seen along Fairview Road north of Fair Drive (approximately 1,000 vehicles per day). An increase of approximately 500 vehicles per day is forecast along Newport Boulevard and Fair Drive in the vicinity of the OCFEC; however, as Table 4.12.L indicates, even with the addition of traffic from the Master Plan Fair event, all roadway segments will continue to operate within their designated capacity. Therefore, implementation of the proposed project will not create significant impacts to existing conditions, and no mitigation measures are required to offset project related impacts in the existing plus project condition. The proposed project will not meet or exceed Impact Significance Criteria 12-A and 12-B.

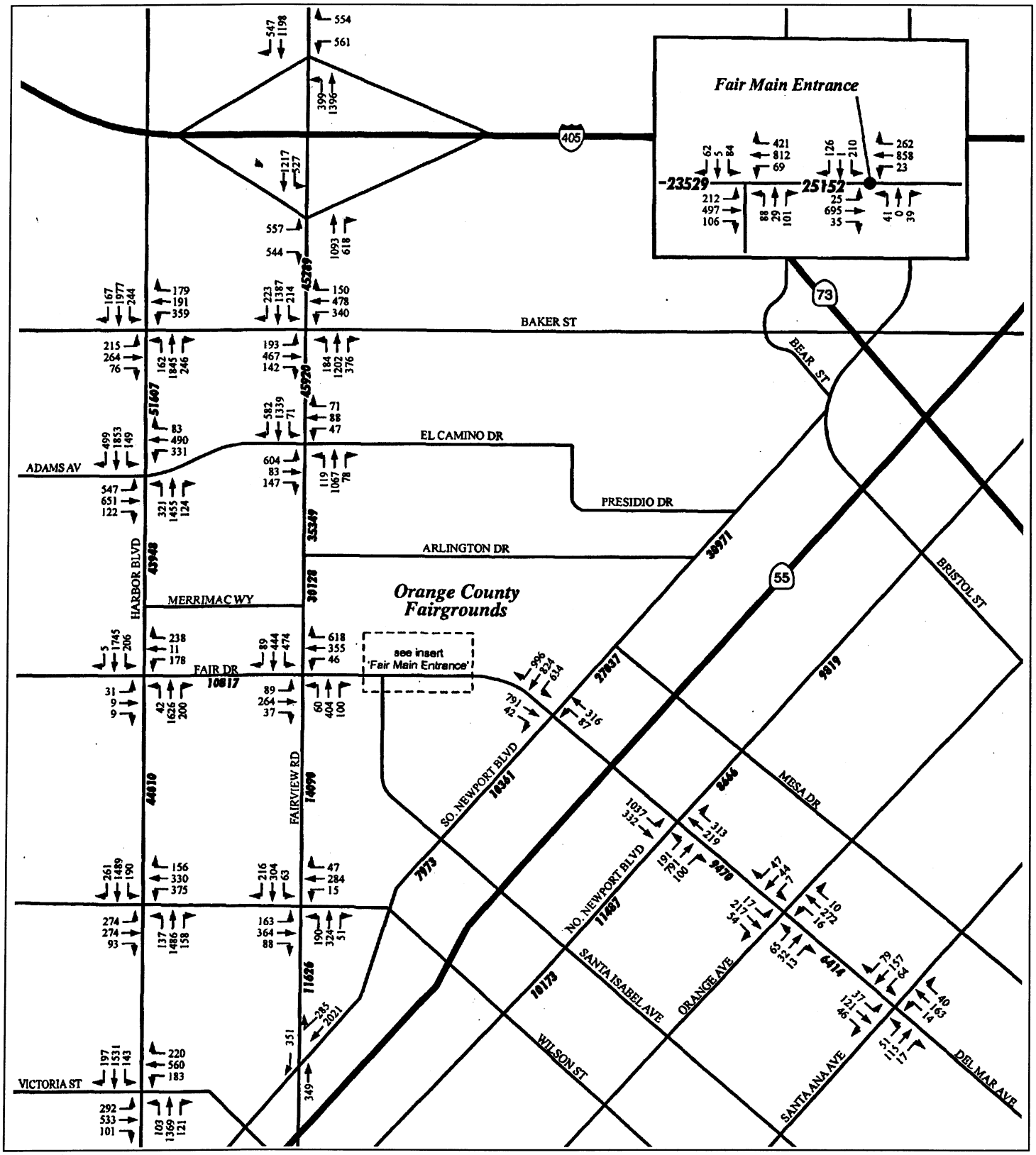

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FIGURE 4.12.8

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NOT TO SCALE

Orange County Fair and Exposition Center

Existing Interim Event Plus Master Plan Plus Concert Condition:
Weekend Daily & Peak Hour Volumes

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Table 4.12.J: Interim Event Plus Master Plan plus Concert Daily Roadway Traffic Volumes

	Street	Segment	Volume	Capacity	V/C
1	Fair Drive	Harbor to Fairview	10,817	38,000	0.28
2	Fair Drive	Fairview to Vanguard	23,529	38,000	0.62
3	Fair Drive	Vanguard to Newport Blvd	25,152	38,000	0.66
4	Del Mar Avenue	Newport Blvd to Orange	9,470	38,000	0.25
5	Del Mar Avenue	Orange to Santa Ana	6,414	38,000	0.17
6	Fairview Road	I-405 to Baker	45,289	56,000	0.81
7	Fairview Road	Baker to Adams	45,920	56,000	0.82
8	Fairview Road	Adams to Arlington	35,349	56,000	0.63
9	Fairview Road	Arlington to Fair	30,128	56,000	0.54
10	Fairview Road	Fair to Wilson	14,090	56,000	0.25
11	Fairview Road	Wilson to Newport	11,626	56,000	0.21
12	Newport Boulevard (North)	Bristol to Mesa	9,819	N/A*	N/A*
13	Newport Boulevard (North)	Mesa to Fair	8,666	N/A*	N/A*
14	Newport Boulevard (North)	Fair to Vanguard	11,487	N/A*	N/A*
15	Newport Boulevard (North)	Vanguard to Fairview	10,173	N/A*	N/A*
16	Newport Boulevard (South)	Bristol to Mesa	30,971	N/A*	N/A*
17	Newport Boulevard (South)	Mesa to Fair	27,037	N/A*	N/A*
18	Newport Boulevard (South)	Fair to Vanguard	10,361	N/A*	N/A*
19	Newport Boulevard (South)	Vanguard to Fairview	7,973	N/A*	N/A*
20	Harbor Boulevard	Wilson to Fair	44,010	68,000	0.65
21	Harbor Boulevard	Fair to Adams	43,948	68,000	0.65
22	Harbor Boulevard	Adams to Baker	51,607	68,000	0.76

* This segment of roadway is a one-way couplet. Neither the City of Costa Mesa nor the County of Orange has an established standard for the capacity of a one-way couplet.

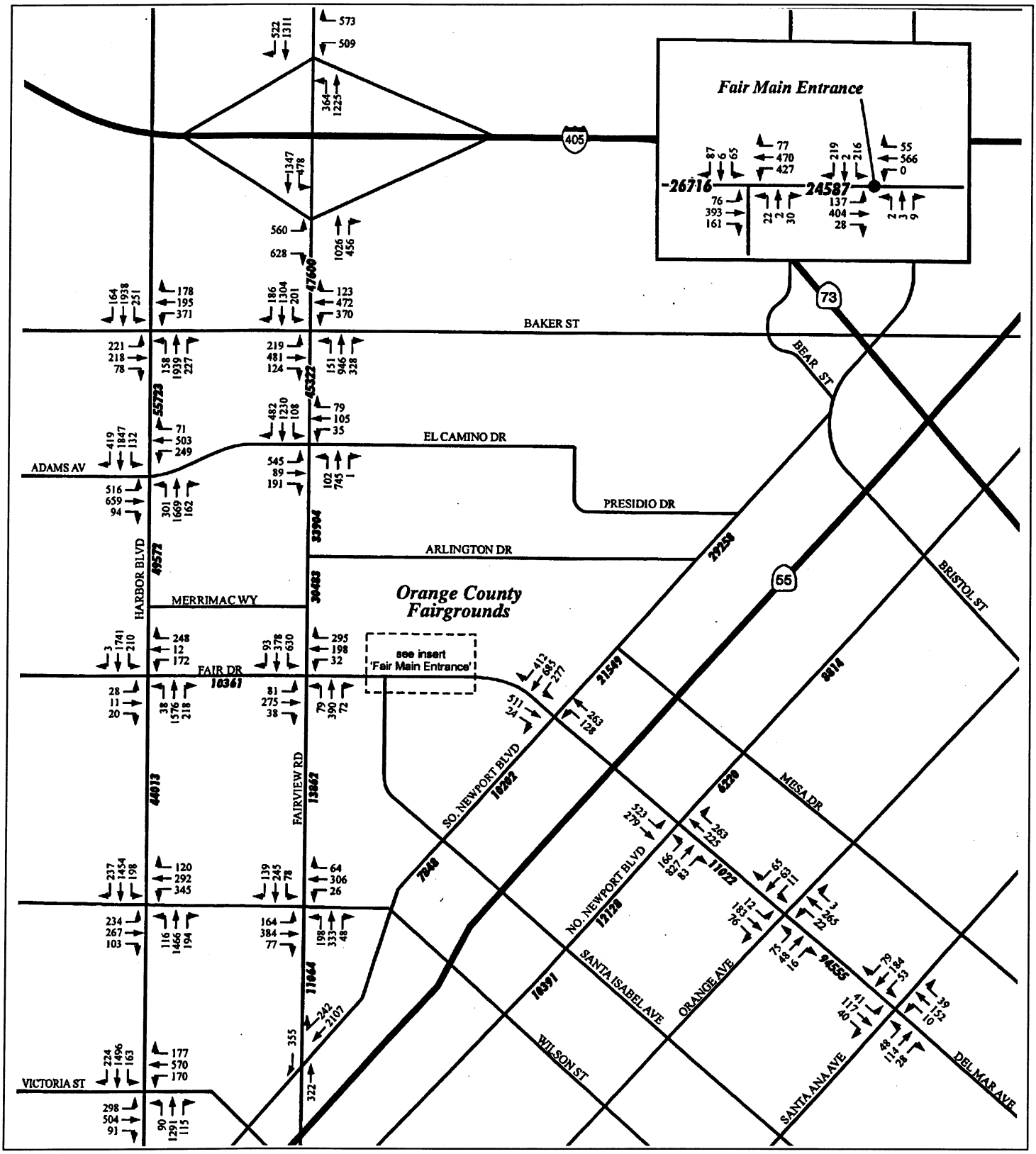

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FIGURE 4.12.9

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Orange County Fair and Exposition Center

Existing Annual Fair Event Plus Master Plan Condition:
Weekend Daily & Peak Hour Volumes

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Table 4.12.K: Existing Fair Event Plus Master Plan Peak Hour Levels of Service

Intersection	V/C or Delay	LOS	Intersection	V/C or Delay	LOS
1. Harbor Blvd/Baker St	0.59	A	10. Fairview Rd/Baker St	0.53	A
2. Harbor Blvd/Adams Ave	0.73	C	11. Fairview Rd/I-405 SB Ramp	0.63	B
3. Harbor Blvd/Fair Drive	0.49	A	12. Fairview Rd/I-405 NB Ramp	0.73	C
4. Harbor Blvd/Wilson St	0.65	B	13. Vanguard Way/Fair Dr	0.53	A
5. Harbor Blvd/Victoria St	0.70	B	14. Fair Main Entry/Fair Dr	0.41	A
6. Fairview Rd/Newport Blvd	0.65	B	15. Newport Blvd (S)/Fair Dr	0.38	A
7. Fairview Rd/Wilson St	0.54	A	16. Newport Blvd (N)/Del Mar Ave	0.55	A
8. Fairview Rd/Fair Dr	0.51	A	17. Orange Ave/Del Mar Ave	10.6 sec.	B
9. Fairview Rd/Adams Ave	0.57	A	18. Santa Ana Ave/Del Mar Ave	11.2 sec.	B

Table 4.12.L: Fair Event Plus Master Plan Daily Traffic Volumes

	Street	Segment	Volume	Capacity	V/C
1	Fair Drive	Harbor to Fairview	10,361	38,000	0.27
2	Fair Drive	Fairview to Vanguard	26,716	38,000	0.70
3	Fair Drive	Vanguard to Newport Blvd	24,587	38,000	0.65
4	Del Mar Avenue	Newport Blvd to Orange	11,022	38,000	0.29
5	Del Mar Avenue	Orange to Santa Ana	9,455	38,000	0.25
6	Fairview Road	I-405 to Baker	47,600	56,000	0.85
7	Fairview Road	Baker to Adams	45,322	56,000	0.81
8	Fairview Road	Adams to Arlington	33,904	56,000	0.61
9	Fairview Road	Arlington to Fair	30,483	56,000	0.54
10	Fairview Road	Fair to Wilson	13,862	56,000	0.25
11	Fairview Road	Wilson to Newport	11,064	56,000	0.20
12	Newport Boulevard (North)	Bristol to Mesa	8,814	N/A*	N/A*
13	Newport Boulevard (North)	Mesa to Fair	6,220	N/A*	N/A*
14	Newport Boulevard (North)	Fair to Vanguard	12,128	N/A*	N/A*
15	Newport Boulevard (North)	Vanguard to Fairview	10,391	N/A*	N/A*
16	Newport Boulevard (South)	Bristol to Mesa	29,258	N/A*	N/A*
17	Newport Boulevard (South)	Mesa to Fair	21,549	N/A*	N/A*
18	Newport Boulevard (South)	Fair to Vanguard	10,202	N/A*	N/A*
19	Newport Boulevard (South)	Vanguard to Fairview	7,848	N/A*	N/A*
20	Harbor Boulevard	Wilson to Fair	44,013	68,000	0.65
21	Harbor Boulevard	Fair to Adams	49,572	68,000	0.73
22	Harbor Boulevard	Adams to Baker	55,723	68,000	0.82

* This segment of roadway is a one-way couplet. Neither the City of Costa Mesa nor the County of Orange has an established standard for the capacity of a one-way couplet.

Although the level of service analysis does not result in any significant traffic impacts, it is recognized that during the Fair, traffic congestion occurs and will continue to occur on the major streets surrounding and providing access to the Fairgrounds. For this reason, Transportation System Management (TSM) is currently provided for large interim events and the annual summer fair by agreements between the OCFEC and the Costa Mesa Police Department. These services include, but are not limited to:

- Manual traffic control at selected intersections
- Temporary road delineators and signage to direct the flow of traffic to and from the SR-55 and I-405 freeways
- Fairground staff to manage flow and parking on site
- Placement of parking fee collection points at strategic locations to minimize the on-street queuing of vehicles.

Traffic congestion is of limited duration, and as such, capital measures to accommodate the Fair traffic would not be recommended.

Access and Circulation

As indicated on the site plan, access to the proposed project will be provided at nine points:

- **Fair Drive Entrance (Gate 1)** is located on Fair Drive across from the City of Costa Mesa City Hall. This gate has a traffic signal to direct traffic.

- **Vanguard Way Entrance (Gate 2)** is also on Fair Drive located directly across from Vanguard Way. This gate has a traffic signal to direct traffic.

- **Fairview Road Entrance (Gate 3)** is located at the intersection of Fairview Road and Merrimac Way. A signal provides traffic direction at this gate.

- **Fairview Road/Princeton Drive Entrance** is used for egress only during the regular weekend swap-meet activities. This gate is locked during the Fair (and restricted to buses only).

- **Arlington Drive Entrance (Gate 4)** is reserved for VIP and media credentialed visitors during the Fair.

- **Arlington Drive Entrance (Gate 5)** is a service entrance. It is primarily a walk-in entrance for staff, concessionaires, and exhibitors who park across the street. Only emergency and maintenance vehicles are permitted to use this gate, as it has no access to parking.

- **Equestrian Center Entrance (Gate 8)** is used only by vehicles related to the equestrian center or the livestock exhibits during selected special events, the Fair, and other year-round events.

- **Arlington Drive Lot E Entrance** is located on Arlington Drive approximately half the distance between Fairview Drive and Gate 4. This gate is open to the public during peak traffic times and is used to fill Lot E. Lot E parking is also made available to Orange Coast College students for parking on a year-round basis at no charge.

These access points—in addition to a new access point on Arlington Drive between the Equestrian Center entrance and the Arlington Drive service entrance—will remain after project implementation and will continue to provide full access into and out of the project site. Any entrances that are altered during implementation of the proposed Master Plan will be constructed in a manner that allows safety and emergency vehicle access (see Section 4.10, Public Services and Utilities, and Section 4.7, Land Use). Therefore, the proposed project will not meet or exceed Impact Significance Criteria 12-C or 12-E.

Per the Orange County Master Plan of Regional Riding and Hiking Trails (MPRRHT) and the Orange County Transportation Authority Bikeway Strategic Plan, a Class I bikeway exists along half of the south side and all of the east side of the Fairgrounds. Class II bikeways exist along the north, west, and south sides of the Fairgrounds. As stated in Section 4.11, Recreation, entrances will be designed in such a way that bicyclists will have easy access, including off-road connections, between the bikeways and bike racks/lockers. Therefore the project will not meet or exceed Impact Significance Criteria 12-G and 12-H.

Parking

Demand for parking at the OCFEC varies seasonally and is subject to large deviations in parking demand. During times when no on-site event, or only a small event, is occurring, fewer visitors are expected and the demand for parking may never meet the supply. However, during the large events like the summer Fair, demand for parking may regularly exceed the supply, regardless of how many spaces are provided. It should be noted, however, that the majority of vehicle trips generated by the OCFEC are due to its recreational opportunities. As a recreational trip is discretionary, if parking is not available, motorists will be forced to seek alternative recreational opportunities. A state of equilibrium will be created that is reflective of the total parking supply and the turnover of vehicles throughout the day. With adequate enforcement of applicable laws, significant environmental impacts associated with parking are not anticipated. Therefore the project will not meet or exceed Impact Significance Criterion 12-F.

Construction (Short-Term) Trips

Construction truck trips will be required for hauling away the excavated earth material and earth material presently contained in the berm near the amphitheater. At this time, it has not been determined whether the materials will go to a local landfill or be used at another construction site in need of imported soil at the time of rough grading of the project site. The ultimate location of export

soil will be determined by the OCFEC at that time, taking into consideration minimization of costs and any approvals needed for the deposition.

Removal of the export material from the earthen berm would require approximately 11,500 truck trips (two-way). This estimate is based on 200,000 cubic yards of export materials at 15–18 cubic yards for each truck. The CCA estimates that removal of the earthen berm will occur over several months. As specified in Mitigation Measure 12-1, the 32nd DAA Board of Directors or the CCA will be required to coordinate with the City of Costa Mesa regarding haul routes and postproject street maintenance. Adherence to this measure will ensure that construction related impacts on traffic and circulation are reduced to below a level of significance (Impact Significance Criteria 12-D). Sections 4.2 and 4.8 address construction impacts of air quality and noise generated by clearing and grading of the project site.

In addition, existing material on site (remnants of buildings that will be removed) will need to be exported prior to project grading and construction. This portion of the project will occur in phases that will sufficiently break up export of materials so that its impact is less than significant.

Mitigation Measure 12-1 Prior to commencement of construction, the California Construction Authority will coordinate with the City of Costa Mesa regarding haul routes and postproject street maintenance specifically pertaining to removing material from the project during grading and construction periods.

Phasing

Project phasing will not create any short- or long-term impacts for traffic and circulation, and will not trigger the need for mitigation. There are no off-site traffic improvements required by phase. Project implementation will require only those traffic improvements outlined in the project description.

4.12.5 SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Based on this analysis, no significant traffic impacts have been identified for a typical event, interim event, or Fair event. Upon implementation of the above specified Mitigation Measure, the identified construction (short-term) impact of the project on Traffic and Circulation will be reduced to below a level of significance.

5.0 CUMULATIVE IMPACTS

The manner in which cumulative impacts are identified and analyzed in an EIR is prescribed by Section 15130 of the State CEQA Guidelines. Specifically, the following excerpts from the State CEQA Guidelines identify those salient sections that address cumulative impacts.

CEQA Guidelines Section 15130 requires that, "An EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable . . ." Further, CEQA Guidelines Section 15130(a)(1) states, ". . . a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. An EIR should not discuss impacts which do not result, in part, from the project evaluated in the EIR." As indicated in Section 15130(a)(2), "When the combined cumulative impact associated with the project's incremental effect and the effects of other projects is not significant, the EIR shall briefly indicate why the cumulative impact is not significant and is not discussed in further detail in the EIR. A lead agency shall identify facts and analysis supporting the lead agency's conclusion that the cumulative impact is less than significant." Section 15130(a)(3) includes guidance that defines what constitutes a "considerable cumulative effect" as follows: "An EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant. A project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact. The lead agency shall identify facts and analysis supporting its conclusion that the contribution will be rendered less than cumulatively considerable." As prescribed in Section 15130(b), "The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact." Section 15130(b) further states that, "The following elements are necessary to an adequate discussion of significant cumulative impacts: (1) Either: (A) A list of past, present and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or (B) A summary of projections contained in an adopted General Plan or related planning document, or in a prior environmental document which has been adopted or certified which described or evaluated regional or areawide conditions contributing to the cumulative impact."

This EIR utilizes a list of future projects approach to determine cumulative impacts. Relevant projects considered in this analysis are listed in Table 5.A. The project information used for the cumulative impact analysis was obtained from the City of Costa Mesa and the City of Newport Beach. Figure 5.1 illustrates the cumulative impact study area. It should be noted that City of Costa Mesa staff identified the Kohl's development, the Home Ranch development, and the Target Greatland development as those reasonably foreseeable developments applicable to traffic in the City of Costa Mesa. The cumulative traffic and noise impact analyses used these projects to established future baseline conditions. For the cumulative impact analysis of hydrology and water quality, only

Table 5.A: Major Development Projects

Project Name	City	Land Use
Harbor Gateway	Costa Mesa	Industrial Park
Auto Club Processing Center	Costa Mesa	Office
Home Ranch	Costa Mesa	Industrial/Commercial/Residential
Metro Point	Costa Mesa	Commercial/Residential
South Coast Plaza 1	Costa Mesa	Regional Mall
South Coast Plaza 2	Costa Mesa	Regional Mall
South Coast Plaza Town Center	Costa Mesa	Office/Retail/Theater/Hotel
South Coast Metro Center	Costa Mesa	Office
Sakioka Farms (Lot 1)	Costa Mesa	Residential
Sakioka Farms (Lot 2)	Costa Mesa	Residential
1901 Newport Plaza	Costa Mesa	Commercial
The Mesa Verde Collection	Costa Mesa	Residential
Kohl's Department Store	Costa Mesa	Retail
Target Greatland	Costa Mesa	Retail
Newport Dunes Hotel	Newport Beach	Hotel
Cannery Lofts Village	Newport Beach	Residential
Balboa Bay Club Expansion	Newport Beach	Hotel/Spa

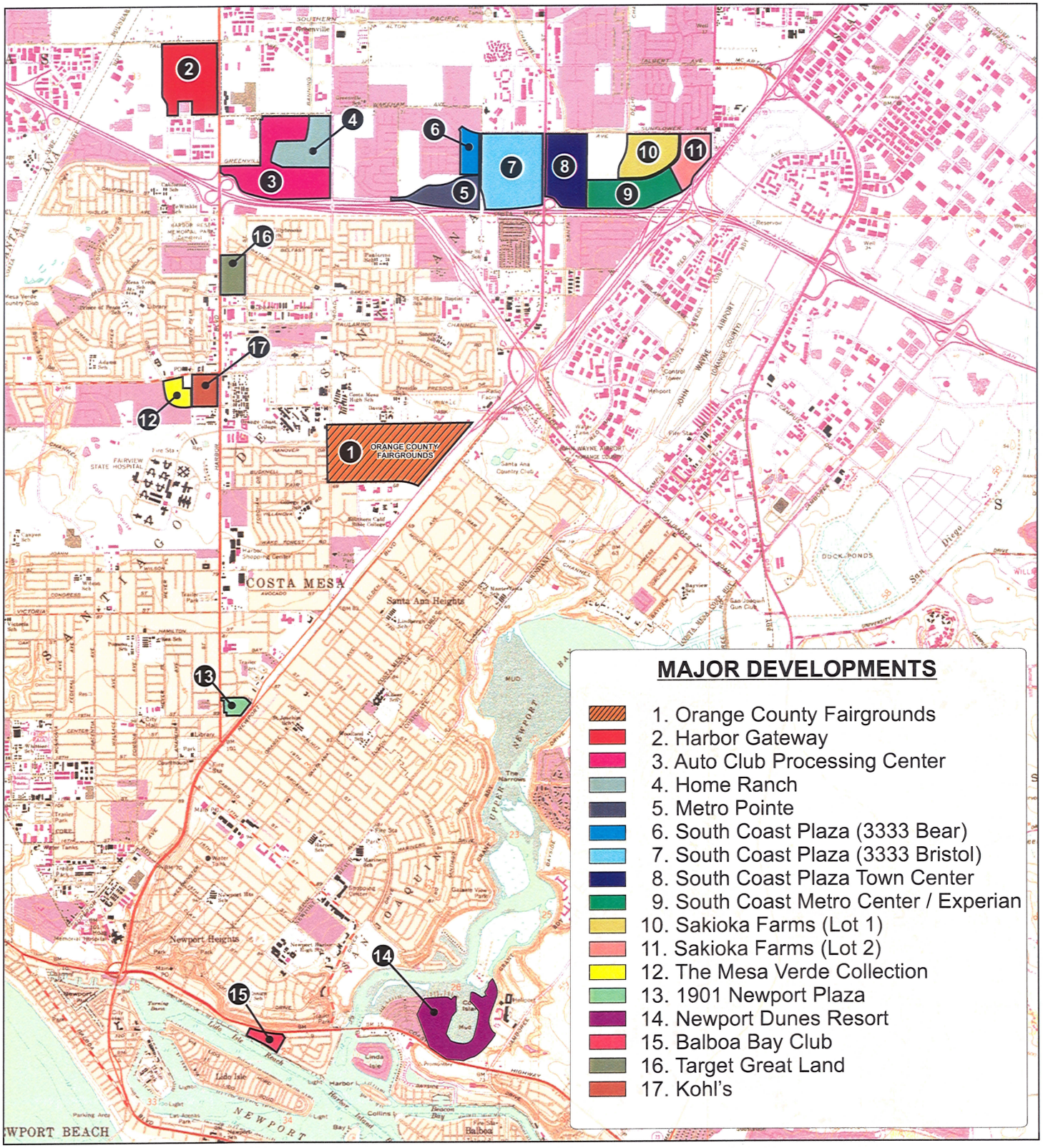

FIGURE 5.1

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Scale in Feet

0 4000

SOURCE: USGS 7.5" QUADRANGLES, "NEWPORT BEACH, IRVINE, & TUSTIN", CA.

Orange County Fair and Exposition Center

Cumulative Impacts Study Area

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projects in the Newport Bay watershed were analyzed because of their potential impact on Upper Newport Bay. These projects included two (the Newport Dunes Resort and the Balboa Bay Club) in the City of Newport Beach and five in the City of Costa Mesa. For all other analysis, only future projects in the City of Costa Mesa were considered.

The cumulative impact area was determined based on distance between the project site and the aforementioned list of reasonably foreseeable projects. Because there are a few remaining large, undeveloped sites (based upon adopted land use designation) in the City of Costa Mesa, CEQA Guidelines Section 15130(b)(1)(B) was utilized for this analysis.

Finally, the proposed project's contribution to cumulative environmental impacts is assessed based on an analysis of the potential impacts of the project taken together with the potential impacts of other related projects within the cumulative impacts study area.

5.1 AESTHETICS

CEQA Guidelines Section 15355 states that "cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." Visual impacts combine cumulatively when visual resources throughout an affected area or region are incrementally reduced and the community value is diminished. For the subject area, cumulative visual impacts exist when visual resources in the affected area are reduced incrementally, thereby substantially and negatively affecting the community-wide visual character or related scenic vistas.

The analysis area, the City of Costa Mesa, is completely urbanized, with a wide mix of uses and building types. Most of the uses are of a suburban nature, ranging from established single-family residential to institutional (e.g., elementary and high schools, and community college and private university) to commercial shopping centers. There are no distinct vistas of either the built or unbuilt landscape surrounding the project site. Although the proposed project represents a gradual intensification of on-site uses, it does not reduce the aesthetic value of the surrounding area. All views of the site will be improved in postimplementation conditions as a result of architectural details and improved street and on-site landscaping.

The proposed project includes structures and landscaping consistent with the existing on-site character and off-site aesthetic context.

Lighting may be viewed from off-site; however, there will be no "spill" or direct light extending onto neighboring properties. Given the surrounding context of other properties' light standards, adjacent street lights, and the general degree of illumination normally associated with a suburban/urban area, the project's contribution to cumulative light and glare impacts is considered to be below a level of significance.

The aesthetic impacts associated with other possible in-fill and redevelopment projects in the City of Costa Mesa would not be compounded or increased by implementation of the proposed Master Plan. Additionally, the project will not incrementally impact or contribute to any identified important visual

features, or substantially increase light and glare; therefore, the proposed project would not contribute to any cumulative aesthetic impacts.

5.2 AIR QUALITY

The long-term cumulative impacts of implementation of the Master Plan would contribute to an incremental increase of carbon monoxide (CO), nitrogen oxide (NO_X), and reactive organic compounds (ROC) emissions due to additional vehicular trips under the Interim Event with Concert scenario and vehicular trips generated by existing and new development in the project vicinity. Generally speaking, a project that generates daily vehicular trips exceeding a certain number will trigger exceedances for the three criteria pollutants indicated above. There are, however, no feasible measures to mitigate these impacts to below a level of significance at this time, and therefore, they remain significant cumulative impacts.

5.3 BIOLOGICAL RESOURCES

The proposed project will not interrupt any known wildlife movement corridors or contribute to any significant cumulative impacts on local or regional populations of sensitive plant or animal species. No other sensitive terrestrial biotic habitats such as wetlands or streambeds would be affected by project development. Therefore, no significant cumulative impacts to biological resources will be created by implementation of the Master Plan.

5.4 CULTURAL RESOURCES

The proposed project, combined with other past and reasonably foreseeable projects within the City of Costa Mesa, has the potential to result in a cumulative impact due to the loss or destruction of undiscovered cultural resources due to grading and construction. There are no known archaeological or historic resources on the proposed project site. Due to the high level of disturbance from agricultural, military, and Fair use of the project site, it is unlikely that any significant cultural resources will be identified. Therefore, the potential for project related cumulative impacts on cultural resources is low. All projects in the region, however, are subject to applicable regulations to offset possible impacts resulting from the loss of archaeological data and resources. Incorporation of Mitigation Measures 4-1 through 4-3, which requires the presence of a cultural resources monitor during grading and construction activities, will ensure that any potential cultural materials can be appropriately addressed and managed. Implementation of these measures will reduce the proposed project's incremental contribution to this potential cumulative impact to a less than significant level.

5.5 EARTH RESOURCES AND TOPOGRAPHY

For earth resources and topography, the study area considered for the cumulative impact of other projects consisted of (1) the area that could be affected by proposed project activities; and (2) the areas affected by other projects whose activities could directly or indirectly affect the geology and soils of the proposed project site. The proposed project's construction activities will only impact the

project site (i.e., the project's influence on earth resources does not extend beyond the project boundaries).

The City of Costa Mesa is a heavily urbanized area, and the project site is currently in use as a fairgrounds facility. As such, no unique land forms will be lost as a result of project implementation, and the project will not contribute to the cumulative impacts of those projects planned for vacant or agricultural land. Neither the proposed project nor any of the identified projects with potential cumulative impacts entail activities that would affect geology, soils, or earth resources at significant distances from the site (i.e., projects requiring significant structural blasting or drilling, high vibration activities, deep excavation, etc.). Therefore, only projects occurring adjacent to or very close to the proposed project site were considered. The proposed project will not expose people to any geological hazards such as landslides, mudslides, ground failure, or similar hazards so unfavorable that they could not be overcome by design using reasonable construction and/or maintenance practices. The proposed project will not contribute to significant cumulative impacts to soils, erosion, or topography because the majority of the future projects are planned for land that has already been developed and are of such a distance from the project as to not contribute to any on-site or off-site effects. Due to the absence of unique geologic features/soils on the site and no contribution of the proposed project to cumulative impacts, there is no significant cumulative impact.

5.6 HYDROLOGY AND WATER QUALITY

The proposed project site is fully developed, with a high percentage of the property occupied by impervious surfaces. Likewise, surrounding properties are also developed with established impervious surfaces. Because intensive urban development has raised concerns about the long-term health of Upper Newport Bay, only those projects that contribute stormwater runoff to the Upper Newport Bay watershed were considered in this analysis. These projects include South Coast Plaza, Sakioka Farms, Newport Dunes Resort, and Balboa Bay Club.

Implementation of the proposed project will result in slightly lower 25-year and 100-year storm peak discharge volumes. Therefore, the proposed project will not contribute to a cumulative increase in stormwater runoff that flows into Upper Newport Bay.

In addition, the proposed project includes a comprehensive water quality component; when completely implemented, this component will reduce existing and potential surface pollutants. The proposed project site lies within an area regulated by the Santa Ana Regional Water Quality Control Board (RWQCB) via a 2002 National Pollutant Discharge Elimination System (NPDES) Permit. This NPDES permit is implemented, in part, by the County of Orange's Drainage Area Management Plan (DAMP). The aforementioned water quality component of the proposed project incorporates Best Management Practices (BMPs) contained in the County's DAMP. By incorporating these measures, the proposed project will not substantially contribute to cumulative impacts on the region's water quality.

5.7 LAND USE

At present, the proposed project will not contribute to land use intensification in the City of Costa Mesa. The City of Costa Mesa is a heavily urbanized area with a wide variety of established land uses. There are no significant, uncommitted vacant parcels within the site's vicinity. The existing land use pattern is established, with institutional, recreational and residential uses to the north of the site, residential uses west of the site, and civic, institutional and residential uses south of the site. Newport Boulevard and State Route 55 (a freeway) are located along the site's eastern edge.

The proposed project site has been used as a fairgrounds for over fifty years, with the surrounding area evolving from vacant and agricultural uses to the existing suburban community. The proposed project recommends program expansion and additional exhibit buildings; however, the site's physical intensity will remain constant.

Although the OCFEC is not, and will not be, regulated by the City of Costa Mesa General Plan and Zoning Ordinance, the site is acknowledged within these documents. The project site is designated as Fairgrounds within the City's General Plan and Institutional/Recreational within the City's Zoning Ordinance. The proposed project remains consistent with these designations. Also, the proposed project recommends structures and facilities at a similar scale and mass with existing, on-site buildings.

The proposed project does not represent a substantial intensification within its current site boundaries, and will not result in a need to intensify surrounding land uses. Also, the proposed project remains consistent with the City's General Plan and Zoning Ordinance. Therefore, the proposed project's contribution to cumulative impacts to land use and planning is not considerable and does not represent a significant impact, thereby requiring no additional mitigation measures.

5.8 NOISE

Short term noise will result from periodic construction activities during the implementation of the proposed project. It is assumed that there will be an increase in ambient noise due to additional vehicle use of the local street system by construction workers to access the project site; use of on-site construction equipment will contribute to the cumulative noise environment for the duration of project construction. This construction-related impact will have a short duration and finite schedule and therefore does not represent a significant impact.

Postproject implementation will result in periodic increases in traffic and possible increased on-site intensity. The proposed project site is located in the City of Costa Mesa, an urban area with existing noise sources, including significant roadways (e.g., Fairview Drive and Newport Boulevard) and a transportation corridor (State Route 55). Analysis suggests that incremental noise increases associated with increased traffic are within the existing noise range parameters. Tables 5.B through 5.D list the cumulative traffic noise levels for typical event, interim event, and Fair scenarios. The potential for increased noise during the evening hours, particularly associated with the reuse of the amphitheater, has been adequately addressed through analysis and appropriate mitigation measures.

Table 5.B: Cumulative Typical Event Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 Feet from Outermost Lane
Fair Drive					
Between Harbor and Fairview	11,647	< 50[1]	86	179	66.0
Between Fairview and Vanguard	20,550	61	122	259	68.5
Between Vanguard and Newport Blvd.	23,974	66	135	287	69.2
Between Newport Blvd. and Orange	10,597	< 50	78	167	67.1
Between Orange and Santa Ana	6,734	< 50	57	123	65.2
Fairview Road					
Between In-405 and Baker	42,637	114	235	502	72.1
Between Baker and Adams	43,812	116	239	511	72.2
Between Adams and Arlington	28,532	90	182	385	70.4
Between Arlington and Fair	26,605	87	174	367	70.1
Between Fair and Wilson	13,321	< 50	113	233	67.1
Between Wilson and Newport Blvd.	10,470	< 50	94	198	66.7
Newport Blvd. (North)					
Between Bristol and Mesa	6,995	< 50	< 50	105	63.0
Between Mesa and Fair	5,886	< 50	< 50	94	62.2
Between Fair and Vanguard	11,557	< 50	70	146	65.2
Between Vanguard and Fairview	9,990	< 50	64	133	64.5
Newport Blvd. (South)					
Between Bristol and Mesa	26,290	54	117	251	69.8
Between Mesa and Fair	22,938	< 50	107	229	69.2
Between Fair and Vanguard	9,385	< 50	59	126	65.3
Between Vanguard and Fairview	7,538	< 50	51	109	64.4
Harbor Blvd.					
Between Wilson and Fair	50,031	125	261	558	72.8
Between Fair and Adams	50,923	127	264	565	72.9
Between Adams and Baker	58,705	142	291	621	72.9

Source: LSA Associates, Inc., November 2002.

[1] Traffic noise within 50 feet of roadway centerline requires site specific analysis.

Table 5.C: Cumulative Interim Event Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 Feet from Outermost Lane
Fair Drive					
Between Harbor and Fairview	11,934	< 50[1]	87	181	66.2
Between Fairview and Vanguard	22,386	64	129	275	68.9
Between Vanguard and Newport Blvd.	24,756	67	138	293	69.3
Between Newport Blvd. and Orange	9,758	< 50	73	158	66.8
Between Orange and Santa Ana	6,702	< 50	57	123	65.2
Fairview Road					
Between In-405 and Baker	42,927	114	236	504	72.1
Between Baker and Adams	42,654	114	235	502	72.1
Between Adams and Arlington	31,154	95	192	408	70.8
Between Arlington and Fair	27,485	88	177	375	70.2
Between Fair and Wilson	13,097	< 50	112	231	67.0
Between Wilson and Newport Blvd.	10,542	< 50	95	199	66.8
Newport Blvd. (North)					
Between Bristol and Mesa	7,197	< 50	< 50	107	63.1
Between Mesa and Fair	6,044	< 50	< 50	96	62.4
Between Fair and Vanguard	11,487	< 50	69	145	65.1
Between Vanguard and Fairview	10,173	< 50	64	134	64.6
Newport Blvd. (South)					
Between Bristol and Mesa	28,349	57	123	264	70.1
Between Mesa and Fair	23,171	< 50	107	231	69.3
Between Fair and Vanguard	10,361	< 50	63	135	65.8
Between Vanguard and Fairview	7,973	< 50	53	113	64.6
Harbor Blvd.					
Between Wilson and Fair	50,041	125	261	558	72.8
Between Fair and Adams	51,345	127	266	568	72.9
Between Adams and Baker	60,833	145	298	636	73.1

Source: LSA Associates, Inc., November 2002.

[1] Traffic noise within 50 feet of roadway centerline requires site specific analysis.

Table 5.D: Cumulative Fair Event Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 Feet from Outermost Lane
Fair Drive					
Between Harbor and Fairview	11,883	< 50[1]	87	181	66.1
Between Fairview and Vanguard	28,103	73	150	319	69.9
Between Vanguard and Newport Blvd.	25,998	69	142	303	69.5
Between Newport Blvd. and Orange	11,513	< 50	82	176	67.5
Between Orange and Santa Ana	9,946	< 50	74	160	66.9
Fairview Road					
Between In-405 and Baker	49,488	125	259	554	72.8
Between Baker and Adams	46,306	120	248	530	72.5
Between Adams and Arlington	33,959	100	203	432	71.1
Between Arlington and Fair	30,572	94	190	403	70.7
Between Fair and Wilson	14,185	63	117	243	67.3
Between Wilson and Newport Blvd.	11,296	< 50	99	208	67.1
Newport Blvd. (North)					
Between Bristol and Mesa	8,621	< 50	58	121	63.9
Between Mesa and Fair	6,027	< 50	< 50	96	62.3
Between Fair and Vanguard	12,128	< 50	72	151	65.4
Between Vanguard and Fairview	10,391	< 50	65	136	64.7
Newport Blvd. (South)					
Between Bristol and Mesa	29,065	58	125	268	70.3
Between Mesa and Fair	21,124	< 50	101	217	68.9
Between Fair and Vanguard	10,202	< 50	62	134	65.7
Between Vanguard and Fairview	7,848	< 50	52	112	64.6
Harbor Blvd.					
Between Wilson and Fair	50,247	126	262	260	72.8
Between Fair and Adams	57,374	136	286	611	73.4
Between Adams and Baker	65,152	151	312	665	73.4

Source: LSA Associates, Inc., November 2002.

[1] Traffic noise within 50 feet of roadway centerline requires site specific analysis.

Therefore, the proposed project's contribution to the existing noise environment via programming and increased traffic does not result in a cumulatively considerable contribution to the study area noise environment.

Tables 5.E through 5.H list the traffic noise levels under the Cumulative Typical Weekend plus Master Plan, Cumulative Interim Event plus Master Plan, Cumulative Interim Event plus Master Plan plus Concert, and Cumulative Fair Event plus Master Plan scenarios. Table 5.E shows that there is no measurable change in traffic noise level from the Cumulative Typical Weekend scenario under the Cumulative Typical Weekend plus Master Plan scenario. Table 5.F shows that the traffic noise level would increase by up to 0.2 dBA along the roadway segments in the project vicinity under the Cumulative Interim Event plus Master Plan scenario. Table 5.G shows that the traffic noise level would increase by up to 1.7 dBA along the roadway segments in the project vicinity under the Cumulative Interim Event plus Master Plan plus Concert scenario. Table 5.H shows that the traffic noise level would increase by up to 0.4 dBA along the roadway segments in the project vicinity under the Cumulative Fair Event plus Master Plan scenario. This range of noise level change is small and is not perceptible by the human ear in an outdoor environment over a period of time.

Therefore, cumulative traffic noise impacts and on-site operations would be less than significant.

5.9 POPULATION AND HOUSING

The proposed project represents an incremental increase of activities currently occurring on the site; however, the proposed project would not induce substantial population growth, since it is neither a residential development nor a project that would generate substantial new job opportunities. The proposed project would not displace any existing housing or cause an increase in the number of employees who, because of housing prices or pay scale, cannot find housing within a 30-minute commute from the project site. Therefore, the proposed project does not contribute to cumulative impacts on population and housing in the City of Costa Mesa.

5.10 PUBLIC SERVICES AND UTILITIES

The proposed development will contribute to the cumulative local and regional demand for public services and utilities, including domestic water, wastewater services, solid waste services, electricity and natural gas, telephone, and police and fire services. For each of these services and utilities, the project will generate increased demand in varying amounts. Each of the service providers confirmed that either the project could be accommodated with adequate service to meet the projected demand or that with implementation of standard conditions and mitigation measures any potentially significant impact will be reduced to below a level of significance. Utility and service providers anticipate the cumulative demand in order to plan for overall service to specific areas. The service and utility providers' determination that adequate service can be provided to the project site includes their consideration of other projects in the area. The proposed project in relation to the cumulative study area would not generate a significant cumulative increase in demand for public services and utilities.

Table 5.E: Cumulative Typical Event Plus Master Plan Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 Feet from Outermost Lane	Change from No Project Level (dBA)
Fair Drive						
Between Harbor and Fairview	11,647	< 50[1]	86	179	66.0	0.0
Between Fairview and Vanguard	20,550	61	122	259	68.5	0.0
Between Vanguard and Newport Blvd.	23,974	66	135	287	69.2	0.0
Between Newport Blvd. and Orange	10,597	< 50	78	167	67.1	0.0
Between Orange and Santa Ana	6,734	< 50	57	123	65.2	0.0
Fairview Road						
Between In-405 and Baker	42,637	114	235	502	72.1	0.0
Between Baker and Adams	43,812	116	239	511	72.2	0.0
Between Adams and Arlington	28,532	90	182	385	70.4	0.0
Between Arlington and Fair	26,605	87	174	367	70.1	0.0
Between Fair and Wilson	13,321	< 50	113	233	67.1	0.0
Between Wilson and Newport Blvd.	10,470	< 50	94	198	66.7	0.0
Newport Blvd. (North)						
Between Bristol and Mesa	6,995	< 50	< 50	105	63.0	0.0
Between Mesa and Fair	5,886	< 50	< 50	94	62.2	0.0
Between Fair and Vanguard	11,557	< 50	70	146	65.2	0.0
Between Vanguard and Fairview	9,990	< 50	64	133	64.5	0.0
Newport Blvd. (South)						
Between Bristol and Mesa	26,290	54	117	251	69.8	0.0
Between Mesa and Fair	22,938	< 50	107	229	69.2	0.0
Between Fair and Vanguard	9,385	< 50	59	126	65.3	0.0
Between Vanguard and Fairview	7,538	< 50	51	109	64.4	0.0
Harbor Blvd.						
Between Wilson and Fair	50,031	125	261	558	72.8	0.0
Between Fair and Adams	50,923	127	264	565	72.9	0.0
Between Adams and Baker	58,705	142	291	621	72.9	0.0

Source: LSA Associates, Inc., November 2002.

[1] Traffic noise within 50 feet of roadway centerline requires site specific analysis.

Table 5.F: Cumulative Interim Event Plus Master Plan Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 Feet from Outermost Lane	Change from No Project Level (dBA)
Fair Drive						
Between Harbor and Fairview	11,998	< 50[1]	87	182	66.2	0.0
Between Fairview and Vanguard	22,782	64	131	278	69.0	0.1
Between Vanguard and Newport Blvd.	25,136	68	139	296	69.4	0.1
Between Newport Blvd. and Orange	9,790	< 50	74	158	66.8	0.0
Between Orange and Santa Ana	6,734	< 50	57	123	65.2	0.0
Fairview Road						
Between In-405 and Baker	43,592	115	239	509	72.2	0.1
Between Baker and Adams	43,319	115	238	507	72.2	0.1
Between Adams and Arlington	31,819	96	195	414	70.8	0.0
Between Arlington and Fair	27,913	89	179	379	70.3	0.1
Between Fair and Wilson	13,303	< 50	113	233	67.1	0.1
Between Wilson and Newport Blvd.	10,748	< 50	96	202	66.8	0.0
Newport Blvd. (North)						
Between Bristol and Mesa	7,577	< 50	54	111	63.3	0.2
Between Mesa and Fair	6,424	< 50	< 50	100	62.6	0.2
Between Fair and Vanguard	11,487	< 50	69	145	65.1	0.0
Between Vanguard and Fairview	10,173	< 50	64	134	64.6	0.0
Newport Blvd. (South)						
Between Bristol and Mesa	28,729	58	124	266	70.2	0.1
Between Mesa and Fair	23,710	51	109	234	69.4	0.1
Between Fair and Vanguard	10,361	< 50	63	135	65.8	0.0
Between Vanguard and Fairview	7,973	< 50	53	113	64.6	0.0
Harbor Blvd.						
Between Wilson and Fair	50,072	125	261	559	72.8	0.0
Between Fair and Adams	51,408	127	266	568	72.9	0.0
Between Adams and Baker	60,865	145	298	636	73.1	0.0

Source: LSA Associates, Inc., November 2002.

[1] Traffic noise within 50 feet of roadway centerline requires site specific analysis.

Table 5.G: Cumulative Interim Event Plus Master Plan Plus Concert Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 Feet from Outermost Lane	Change from No Project Level (dBA)
Fair Drive						
Between Harbor and Fairview	12,432	< 50[1]	89	186	66.3	0.1
Between Fairview and Vanguard	25,496	69	141	299	69.5	0.6
Between Vanguard and Newport Blvd.	27,741	72	148	316	69.8	0.5
Between Newport Blvd. and Orange	10,007	< 50	75	160	66.9	0.1
Between Orange and Santa Ana	6,951	< 50	59	126	65.3	0.1
Fairview Road						
Between In-405 and Baker	48,151	122	255	544	72.6	0.5
Between Baker and Adams	47,878	122	254	542	72.6	0.5
Between Adams and Arlington	36,378	104	212	452	71.4	0.6
Between Arlington and Fair	30,843	94	191	405	70.7	0.5
Between Fair and Wilson	14,714	64	120	249	67.5	0.5
Between Wilson and Newport Blvd.	12,159	< 50	104	219	67.4	0.6
Newport Blvd. (North)						
Between Bristol and Mesa	10,182	< 50	64	134	64.6	1.5
Between Mesa and Fair	9,029	< 50	60	124	64.1	1.7
Between Fair and Vanguard	11,487	< 50	69	145	65.1	0.0
Between Vanguard and Fairview	10,173	< 50	64	134	64.6	0.0
Newport Blvd. (South)						
Between Bristol and Mesa	31,334	61	131	282	70.6	0.5
Between Mesa and Fair	27,400	56	120	258	70.0	0.7
Between Fair and Vanguard	10,361	< 50	63	135	65.8	0.0
Between Vanguard and Fairview	7,973	< 50	53	113	64.6	0.0
Harbor Blvd.						
Between Wilson and Fair	50,289	126	262	560	72.8	0.0
Between Fair and Adams	51,843	128	267	572	73.0	0.1
Between Adams and Baker	61,082	145	299	638	73.1	0.0

Source: LSA Associates, Inc., November 2002.

[1] Traffic noise within 50 feet of roadway centerline requires site specific analysis.

Table 5.H: Cumulative Fair Event Plus Master Plan Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 Feet from Outermost Lane	Change from No Project Level (dBA)
Fair Drive						
Between Harbor and Fairview	11,976	< 50[1]	87	182	66.2	0.1
Between Fairview and Vanguard	28,683	74	152	323	70.0	0.1
Between Vanguard and Newport Blvd.	26,554	70	144	307	69.6	0.1
Between Newport Blvd. and Orange	11,560	< 50	82	177	67.5	0.0
Between Orange and Santa Ana	9,993	< 50	75	160	66.9	0.0
Fairview Road						
Between In-405 and Baker	50,462	126	263	561	72.8	0.0
Between Baker and Adams	47,280	121	252	538	72.6	0.1
Between Adams and Arlington	34,932	101	207	440	71.2	0.1
Between Arlington and Fair	31,198	95	192	408	70.8	0.1
Between Fair and Wilson	14,487	64	119	247	67.4	0.1
Between Wilson and Newport Blvd.	11,598	< 50	101	212	67.2	0.1
Newport Blvd. (North)						
Between Bristol and Mesa	9,177	< 50	60	126	64.2	0.3
Between Mesa and Fair	6,583	< 50	< 50	101	62.7	0.4
Between Fair and Vanguard	12,128	< 50	72	151	65.4	0.0
Between Vanguard and Fairview	10,391	< 50	65	136	64.7	0.0
Newport Blvd. (South)						
Between Bristol and Mesa	29,621	59	126	272	70.3	0.0
Between Mesa and Fair	21,912	< 50	103	222	69.0	0.1
Between Fair and Vanguard	10,202	< 50	62	134	65.7	0.0
Between Vanguard and Fairview	7,848	< 50	52	112	64.6	0.0
Harbor Blvd.						
Between Wilson and Fair	50,293	126	262	560	72.8	0.0
Between Fair and Adams	57,467	137	286	612	73.4	0.0
Between Adams and Baker	65,198	151	312	666	73.4	0.0

Source: LSA Associates, Inc., November 2002.

[1] Traffic noise within 50 feet of roadway centerline requires site specific analysis.

5.11 RECREATION

The Orange County Fair and Exposition Center (OCFEC) is a regional recreational facility; the proposed project expands its capacity to serve regional recreational needs. The project is neither a residential development nor a project that would generate substantial new job opportunities. For this reason, the proposed project will not cause demand for neighborhood or regional parks or other recreational facilities to rise beyond existing capacity. The proposed project will not impact nearby recreational uses. Existing trails will be maintained as part of the proposed project. Therefore, the proposed project does not represent a contribution to any cumulative effect on the area's recreational facilities.

5.12 TRAFFIC AND CIRCULATION

To present a future year baseline condition, traffic volumes for approved projects in the City of Costa Mesa were added to the existing traffic volumes for the Fair, interim, and typical scenarios. Three cumulative projects were identified by City staff as reasonably foreseeable developments applicable to traffic in Costa Mesa as part of the recent Kohl's Department Store Traffic Impact Analysis (LSA, August 2002). The project descriptions and Saturday trip generation of the cumulative projects are shown in Table 5.I.

Table 5.I: Approved Projects, Saturday Trip Generation

Project	Size		Land Use	Saturday Daily	Saturday Peak		
					In	Out	Total
Home Ranch	192.00	DU	Med. Residential	1,251	49	49	98
	252.65	TSF	Industrial Park	668	28	60	88
	308.00	TSF	IKEA	8,435	308	285	593
Home Ranch Total				10,354	385	394	779
Target Greatland—Phase II	71.766	TSF	Retail	7,426	366	337	703
Kohl's Department Store	95.839	TSF	Retail	9,079	441	407	848

DU = Dwelling Unit
TSF = Thousand Square Feet
Source: Institute of Transportation Engineers, *Trip Generation*, 6th Edition, Land Use Codes 220: Apartment, pp. 305–306; 130: Industrial Park, pp. 147–148; and 820: Shopping Center; pp. 1340–1341.

The cumulative project trips were distributed to the surrounding street system using the trip distributions from the Segerstrom Home Ranch Traffic Analysis and the Kohl's Department Store Traffic Impact Analysis. To assess the operational characteristics of the existing roadway network in the vicinity of the project site in the cumulative baseline scenario, traffic generated by the three

cumulative projects was added to the existing traffic counts for the existing Fair event, existing interim event, and typical weekend scenario. The results of this analysis are presented below:

- When cumulative project traffic is added to the existing typical weekend traffic volumes, the study area intersections are forecast to continue to operate at satisfactory levels of service and within their designated roadway capacities.
- When cumulative project traffic is added to the existing interim event traffic volumes, the study area intersections are forecast to continue to operate at satisfactory levels of service and within their designated roadway capacities.
- When cumulative project traffic is added to the existing Fair event traffic volumes, the study area intersections are forecast to continue to operate at satisfactory levels of service. As noted in Chapter 4.12, even though the level of service calculations indicate satisfactory levels of service in the study area during the Fair event, this may not accurately reflect the actual conditions, particularly during short durations of noticeable congestion. Therefore, the proposed project does represent a considerable contribution to the area's overall cumulative traffic conditions. During the existing Fair event, the circulation system surrounding the OCFEC accommodates a significant amount of traffic, and congestion is experienced in the area surrounding the OCFEC. This congestion occurs for a limited amount of time and only during peak Fair times (e.g., weekend nights, during popular concert events).

  With the addition of traffic from the Master Plan Fair event project to the cumulative Fair scenario, all roadway segments will continue to operate within their designated capacity, with the exception of Harbor Boulevard from Adams Avenue to Baker Street, which is forecast to continue to operate with a daily volume to capacity ratio of 0.96. The deficiency on this roadway segment is due to the traffic added to the roadway by the cumulative projects. Addition of project trips from the Fair Master Plan will not change the level of service on this roadway segment. It should be noted that this is a Saturday occurrence and does not require mitigation because the City's significance criteria refer to weekday operations, and an occurrence on a Saturday would not meet the 30th highest design hour standard.

6.0 LONG-TERM IMPLICATIONS OF THE PROJECT

6.1 SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED

Development of the project would result in specific environmental impacts associated with grading and construction that will affect local and regional air quality. Impacts include emission of air pollutants from construction vehicles and dust from grading activities. Noise would also be generated from grading and construction. Increased construction traffic will also occur. All of the above project effects are expected for the duration of project construction.

Ongoing and long-term significant impacts associated with the project include increased air pollutant emissions from traffic, which are NO_X, CO, and ROC. Mitigation is proposed (see also Chapter 1.0, Executive Summary, for a listing of project effects and mitigation) to reduce these impacts; however, these impacts will remain significant after mitigation. Chapter 8.0 includes an inventory of unavoidable adverse impacts.

6.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES THAT WOULD BE INVOLVED IN THE PROPOSED PROJECT SHOULD IT BE IMPLEMENTED

CEQA and CEQA Guidelines Section 15126.2(c) require an evaluation of the long-term commitment of resources to the project. The Orange County Fair and Exposition Center (OCFEC) and the surrounding areas are part of a well-established urban industrial and commercial corridor along State Route 55 (SR-55), and the project site has been committed to urban development for approximately 60 years, first as an Army air base and later as the Fairgrounds. The project does not propose to change an existing land use, and the environmental changes produced by implementation of the project are those incremental effects of intensification of activities on site.

The visual characteristics of the site will change as thematically linked architectural and landscape improvements are made; however, these changes will not degrade the overall aesthetic condition of the area. On-site and off-site drainage infrastructure will be improved to accommodate the postproject runoff rates and quantities. Site topography will be modified per the conceptual grading plan for the project; however, modifications will only affect previously developed land.

Operation of the proposed project will increase traffic to and from the project site. Despite the increase, the traffic analysis (Section 4.12 of this EIR) concluded that project generated traffic will not cause significant level of service impacts or cause traffic to exceed designated roadway capacities.

Implementation of the Master Plan would, however, result in significant long-term air quality impacts due to emissions of carbon monoxide (CO), nitrogen oxide (NO_X), and reactive organic compounds

(ROC) generated by increased vehicle traffic. There will also be air quality impacts that will result from construction activities and removal of the earthen berm. Construction activities will exceed daily emissions thresholds for NO_X and fugitive dust (PM_{10}). Adherence to standard conditions and mitigation measures will be required to reduce construction dust impacts from coarse particles less than or equal to 10 micrometers in diameter (PM_{10}) and NO_X; however, impacts will remain significant after implementation for PM_{10} and NO_X.

Project noise impacts will occur both during construction and in long-term operation of the site as the Fairgrounds. It has been determined that a sound barrier will be required to bring the amphitheater into compliance with the County of Orange's Noise Control Ordinance. Once noise attenuation design features are incorporated into the project, noise impacts from nonfair amphitheater use will be less than significant. Other possible noise impacts are less than significant or can be mitigated to less than significant levels.

Construction, operation, and maintenance of the project would require the consumption of quantities of natural resources, such as building materials and fossil fuels, for building operation and project generated vehicular traffic. Many of these natural resources are nonrenewable.

6.3 GROWTH INDUCING IMPACTS OF THE PROPOSED PROJECT

CEQA and CEQA Guidelines Section 15126.2(d) require the evaluation of the growth inducing impacts of the proposed project. This section is required to determine the manner in which the proposed project could encourage economic or population growth or construction of additional housing in the surrounding area, either directly or indirectly. Growth that is induced as a result of construction of the project or the infrastructure needed for the project is distinguished from direct employment, population, or housing growth of a project. A project could also induce growth by lowering or removing barriers to growth or by creating an amenity or facility that attracts new population or economic activity.

In assessing the growth inducing impacts of a project, CEQA Guidelines Section 15126.2(d) states that the Lead Agency is not to assume that growth in an area is necessarily beneficial or of little significance environmentally but must make its judgment in this regard after open-minded analysis. Typically, growth inducing impacts result from the provision of urban services and extension of infrastructure (including roadways, sewerage, or water service) into an undeveloped area. Growth inducing impacts can also result from substantial population increase, because the new population may impose new burdens on existing community service facilities, such as increasing the demand for service and utilities infrastructure and creating the need to expand or extend services, which may induce further growth. The following is a discussion of the significance of the proposed project's growth inducing effects.

Most of the land in the City of Costa Mesa is built out, including the proposed project site and the land adjacent to the project site. Therefore, extension and expansion of utilities, services, and roadway access in the project area would not be needed, because these areas are currently served by existing utilities and services. The proposed project would not result in increases of public services and utilities beyond those provided for the existing uses. Any expansion of public services and

utilities would enhance existing services to the project site and would not induce growth. In addition, given the built out nature of the City, growth is limited to redevelopment of properties that already have services. Service improvements associated with the project will not bring new services into the area that are not already there.

Development of the proposed project will not create substantial additional or new employment opportunities or induce substantial population growth through residential development. Based on the analysis provided in Section 4.9 (Population and Housing) of this EIR, the proposed project would not contribute to any significant impacts on population and housing.

The OCFEC Master Plan project is unique in terms of its location and applicability. It is highly unlikely, if not impossible, that another project like this one would occur elsewhere in the City of Costa Mesa. The proposed project responds to existing site-specific infrastructure pressures and demands and will not cause any growth inducing impacts.

7.0 INVENTORY OF MITIGATION MEASURES

7.1 AESTHETICS

Mitigation Measures

No mitigation measures are necessary for aesthetics.

7.2 AIR QUALITY

Mitigation Measures

Mitigation Measure 2-1 In order to reduce short-term construction impacts from emissions from equipment and vehicles, prior to issuance of the Notice to Proceed, the following measures shall be included on all construction plans and in all construction contracts, to the satisfaction of the California Construction Authority:

- The Construction Contractor shall select the construction equipment used on site based on low emission factors and high energy efficiency, as reported by the federal government.
- The Construction Contractor shall ensure that construction plans include a statement that work crews must shut off equipment when not in use. During smog season (May through October) the overall length of the construction period will be extended, thereby decreasing the size of the area prepared each day, to minimize vehicles and equipment operating at the same time.
- The Construction Contractor shall utilize electric or diesel powered equipment in lieu of gasoline powered engines, where feasible.
- The Construction Contractor shall ensure that construction grading plans include a statement that all construction equipment will be tuned and maintained in accordance with the manufacturer's specifications.
- The Construction Contractor shall time the construction activities so as not to interfere with peak hour traffic and so as to minimize obstruction of through traffic lanes adjacent to the site; if necessary, a flag person shall be retained to maintain safety adjacent to existing roadways.

- The Construction Contractor shall provide ridesharing and transit incentives for the construction crew, such as free bus passes and preferred carpool parking.

Mitigation Measure 2-2 In order to reduce fugitive dust from construction activities, the following shall be implemented by the applicant prior to commencement of grading or excavation:

Prior to issuance of the Notice to Proceed, the California Construction Authority shall verify that the following provisions are included in the grading contractor's contract:

1. During clearing, grading, earthmoving, excavation, or transportation of cut or fill materials, water trucks or sprinkler systems shall be used to prevent dust from leaving the site and to create a crust after each day's activities cease.

2. During construction, water trucks or sprinkler systems shall be used to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this would include wetting down such areas in the late morning, after work is completed for the day, and whenever winds exceed 15 miles per hour.

3. Immediately after clearing, grading, earthmoving, or excavation is completed, the entire area of disturbed soil shall be treated until the area is paved or otherwise developed so that dust generation will not occur.

4. Soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binder to prevent dust generation.

Mitigation Measure 2-3 In order to reduce fugitive dust from on-site and off-site vehicle activity, the following measures shall be implemented by the applicant and the contractor during the period of construction:

The California Construction Authority shall verify that the following provisions are included in the grading contractor's contract prior to issuance of the Notice to Proceed:

1. All trucks hauling dirt, sand, soil, or other loose materials are to be covered, or shall maintain at least two feet of freeboard in accordance with the requirements of California Vehicle Code section 23114 ("freeboard" means vertical space between the top of the load and top of the trailer); covering shall be tightly secured to truck.

2. Sweep adjacent streets once a day if visible soil materials are carried to adjacent streets (recommend water sweepers with reclaimed water). Sweep streets immediately after period of heaviest vehicular track-out activity.

3. Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and any equipment leaving the site each trip. Set up truck washing area on paved access road area so subsequent truck travel on unpaved roads can be eliminated.

4. Pave or provide gravel roadbed on all on-site construction access roads at least 100 feet onto the site from main road.

5. Apply water three times daily, or apply non-toxic soil stabilizers, according to manufacturers' specifications, to all inactive construction areas (previously graded areas inactive for 10 days or more).

6. Traffic speeds on all unpaved roads shall be reduced to 15 mph or less; effective traffic control or signage shall be installed and maintained.

7. Daily and weekly monitoring reports by the California Construction Authority's monitor, acceptable to the 32nd DAA Board of Directors and the California Construction Authority, shall be submitted to the California Construction Authority Project Manager, by the contractor.

Mitigation Measure 2-4 A construction and construction-related activity monitor satisfactory to the 32nd DAA Board of Directors and the California Construction Authority shall be retained by the applicant prior to issuance of the Notice to Proceed. The monitor shall monitor all activity on a daily basis, keep written daily records, and file daily activity reports with the California Construction Authority Project Manager, for the duration of grading and construction. The monitor shall be employed by the OCFEC or California Construction Authority, and shall file reports with the California Construction Authority Project Manager. The monitor shall report on the following strategies:

- Construction equipment exhaust shall be minimized by use of the following:
    - NO_X control technologies, such as fuel injection timing retard for diesel engines and air-to-air after cooling.
    - Low sulfur fuel.

- Well maintained equipment and proper planning to minimize trips/use.
- Log fuel use, hours of operation, and periodic maintenance.

- Fugitive dust shall be controlled as specified in Mitigation Measures 2-2 and 2-3, and SCAQMD rules and regulations.
- Restrict delivery of construction supplies and off-site hauling of debris to non-peak travel periods whenever feasible, except for concrete and earthwork related activities.
- Construction worker travel in carpools shall be encouraged by common carpool registry, maintained at the construction site and managed by the applicant.
- Application of building materials and architectural coatings shall be controlled by applicable SCAQMD rules and Mitigation Measure 2-5.

Mitigation Measure 2-5 In order to reduce short-term construction emissions, the following mitigation measure shall be included on construction plans. The California Construction Authority shall verify inclusion of this measure prior to issuance of the Notice to Proceed.

The construction contractor shall utilize precoated/natural color building materials, water based or low VOC coating, and coating transfer or spray equipment with high transfer efficiency, such as the high volume low pressure (HVLP) spray method, or use manual coating application methods such as the paint brush, hand roller, trowel, spatula, dauber, rag, or sponge.

7.3 BIOLOGICAL RESOURCES

Mitigation Measures

No mitigation measures are necessary for biological resources.

7.4 CULTURAL AND SCIENTIFIC

Mitigation Measure 4-1 Prior to issuance of the Notice to Proceed, the California Construction Authority shall verify that a County of Orange certified paleontologist has been retained to observe grading activities and salvage and catalogue fossils as necessary. The paleontologist shall be present at the pregrading conference, shall establish procedures for paleontological resource surveillance, and shall establish, in cooperation with the OCFEC and the California Construction Authority, procedures for

temporarily halting or redirecting work to permit sampling, identification, and evaluation of the fossils. If major paleontological resources are discovered, the paleontologist shall determine appropriate actions, in cooperation with the project developer, to ensure proper exploration and/or salvage. Excavated finds shall be offered to the County of Orange, or its designee, on a first refusal basis. If any paleontological resources are found, the paleontologist shall submit a follow-up report which shall include the period of inspection, a catalogue and analysis of the fossils found, and present repository of the fossils to the Orange County Natural History Museum.

Mitigation Measure 4-2 Prior to issuance of the Notice to Proceed, the California Construction Authority shall verify that a County of Orange certified archaeologist has been retained, shall be present at the pregrading conference, shall establish procedures for archaeological resource surveillance, and shall establish, in cooperation with the OCFEC and the California Construction Authority, procedures for temporarily halting or redirecting work to permit sampling, identification, and evaluation of the artifacts as appropriate. If the archaeological resources are found to be significant, the archaeological observer shall determine appropriate actions, in cooperation with the OCFEC and the California Construction Authority, for exploration and/or salvage. The archaeologist shall submit a follow-up report to the Orange County Natural History Museum which shall include the period of inspection, a catalogue and analysis of any artifacts found, and present repository of the artifacts. Excavated finds shall be offered to the County of Orange, or designee, on a first refusal basis.

Mitigation Measure 4-3 If human remains are encountered during the course of construction, project-related activities in the immediate vicinity of the find will be temporarily diverted. The County Coroner will be contacted within 24 hours. The County Coroner will determine whether the remains are recent. If the remains are determined to be Native American in origin, the Native American Heritage Commission will be contacted immediately to determine the most likely descendant (MLD). The MLD will have the opportunity to become involved with the final disposition of the remains following scientific analysis.

7.5 EARTH RESOURCES AND TOPOGRAPHY

Mitigation Measures

Mitigation Measure 5-1 Prior to issuance of the Notice to Proceed, project grading plans and structural plans for all buildings shall incorporate soil and seismic foundation recommendations of an updated soils and geotechnical report. In the updated soils and geotechnical report, the geotechnical engineer

shall recommend one or more of the following measures, or other measures as determined appropriate, to treat expansive soils: presaturation of subgrade soils, increased reinforcement of concrete foundation elements, increased foundation embedment, use of posttensioned grade beams and floor slabs, blanketing the surface with nonexpansive compacted fill, blending expansive soils with nonexpansive soils, chemical stabilization, and/or increased jointing of building improvements.

During design and grading, expansive soils shall not be placed or left at or near final grade unless special design and construction procedures are planned to offset the effects of such soils. If deemed necessary during grading operation, soil placement shall be supervised by the project's geotechnical engineer.

During plan check and prior to issuance of the Notice to Proceed, the California Construction Authority shall confirm that recommended site preparation and compaction features are noted on all building plans and implemented as part of the construction level geologic review and investigation for the proposed project design.

7.6 HYDROLOGY AND WATER QUALITY

Mitigation Measures

Mitigation Measure 6-1 The proposed project must file a Notice of Intent (NOI) to apply for General Permit coverage prior to the commencement of construction activity. A Storm Water Pollution Prevention Plan (SWPPP) will be prepared in accordance with SWRCB Order No. 92-08-DWQ. The SWPPP shall be submitted to the Santa Ana RWQCB for review and comment. The SWPPP shall include a surface water control plan and erosion control plan to be implemented during construction. The SWPPP will emphasize structural and nonstructural BMPs to control sediment and nonvisible discharges from the site. Some of the BMPs to be implemented include the following:

- Sediment discharges from the site may be controlled by the following: sandbags, silt fences, straw wattles and temporary debris basins (if deemed necessary), and other discharge control devices. The construction and condition of the BMPs will be periodically inspected during construction, and repairs will be made when necessary as required by the SWPPP.
- All materials that have the potential to contribute nonvisible pollutants to storm water must not be placed in drainage ways and

must be contained, elevated, and placed in temporary storage containment areas.

- All loose piles of soil, silt, clay, sand, debris, and other earthen material shall be protected in a reasonable manner to eliminate any discharge from the site into the existing and proposed storm drain system. Stockpiles will be surrounded by silt fences and covered with plastic tarps.
- The SWPPP will include inspection forms for routine monitoring of the site during the construction phase to ensure NPDES compliance.
- Additional BMPs and erosion control measures will be documented in the SWPPP and utilized if necessary.
- A Sampling and Analysis Plan (SAP) will also be included in the SWPPP that outlines a monitoring and sampling plan in accordance with SWRCB Resolution 2001-046.

The SWPPP will be kept on site for the entire duration of project construction and will also be available to the local RWQCB for inspection at any time. This measure will be verified by the California Construction Authority prior to issuance of the Notice to Proceed.

Mitigation Measure 6-2 The Construction Contractor shall be responsible for performing and documenting the application of BMPs identified in the Storm Water Pollution Prevention Plan (SWPPP). Weekly inspections shall be performed on the sand bag barriers and other sediment control measures called for in the SWPPP. Monthly reports shall be maintained by the California Construction Authority Project Manager. Inspection records and compliance certification reports shall be submitted to the California Construction Authority Project Manager on a monthly basis and shall be maintained for a period of three years. Inspection schedules shall be monthly during the dry season and weekly during the wet season.

The contractor shall inspect BMP facilities before and after every rainfall event that is predicted to produce observable runoff, and at 24 hour intervals during extended rainfall events, excepting days when there is no ongoing site activity. Pre-storm activities will include inspection of the major storm drain grate inlets and examination of other on-site surface flow channels and swales, including the removal of any debris that blocks the flow path. Post-storm activities will include inspection of the grate inlets, looking for any ponded water on the site and determining the cause, and looking for surface erosion. The Construction Contractor shall implement corrective actions specified by the California Construction Authority Inspector, as necessary.

Mitigation Measure 6-3 The 32nd DAA shall submit and obtain approval of the Water Quality Management Plan (WQMP) from the City of Costa Mesa, Director of Development Services. The WQMP shall specifically identify Best Management Practices (BMPs) that will be used on site to control predictable pollutant runoff. Prior to issuance of the Notice to Proceed, the California Construction Authority will verify that approval from the City has been obtained for the WQMP.

7.7 LAND USE

Mitigation Measures

No mitigation measures are necessary for land use.

7.8 NOISE

Mitigation Measures

Mitigation Measure 8-1 During project construction, the construction superintendent shall implement the following measures to reduce construction noise impacts:

a) Limit construction hours to between 7:00 a.m. and 7:00 p.m. Monday through Saturday; construction is not permitted on Sundays and federal holidays;

b) Properly muffle and maintain all internal combustion engines used for construction on the site;

c) Locate all stationary noise generating sources, such as air compressors and portable power generators, as far away as feasible from homes (and classrooms when school is in session);

d) Prohibit unnecessary idling of internal combustion engines.

Notations in the above format, appropriately numbered and included with other notations on the front sheet of grading plans, will be considered as adequate evidence of compliance with this mitigation measure. The California Construction Authority will verify the inclusion of notations during plan check and prior to issuance of the Notice to Proceed.

Mitigation Measure 8-2 Should the 32nd DAA Board of Directors decide to use the amphitheater for nonfair concert events, all or any combination of the following mitigation measures may need to be applied to meet the requirements of the 1990 Order:

- Partial walls;
- Partial enclosure (walls and a portion of a roof);
- Full enclosure; and
- Noise control and monitoring at the source.

If partial enclosure is considered, the opening of the enclosure will be designed so that it is not open to the direction of any noise sensitive land uses. In addition, sound absorptive material or finish is to be used on the interior surface of the partial enclosure to reduce the potential of noise leaking out of the enclosure.

7.9 POPULATION AND HOUSING

Mitigation Measures

No mitigation measures are necessary for population and housing.

7.10 PUBLIC SERVICES AND UTILITIES

Mitigation Measures

Mitigation Measure 10-1 Prior to issuance of the Notice to Proceed, the California Construction Authority shall submit to the Deputy State Fire Marshal evidence of the on-site fire hydrant system. Provisions shall be made by the OCFEC/32nd DAA for the repair and maintenance of the system, in a manner meeting the approval of the Deputy State Fire Marshal.

Mitigation Measure 10-2 **Automatic Sprinkler System.**

A. All structures over 6,000 square feet shall be protected by an automatic sprinkler system, in a manner meeting the approval of the Deputy State Fire Marshal.

B. Prior to construction, the California Construction Authority shall submit plans for any required automatic fire sprinkler system in any structure to the Office of the State Fire Marshal for review and approval.

C. Prior to building occupancy, this system shall be operational in a manner meeting the approval of the Deputy State Fire Marshal.

Mitigation Measure 10-3

A. Prior to issuance of the Notice to Proceed, the California Construction Authority shall submit and obtain approval of plans for all roads, streets, and courts, public or private, from the Deputy State Fire Marshal. The plans shall include the following:

- The plan view and the sectional view shall indicate the grade and width of the street or court, measured flow line to flow line.
- All proposed fire apparatus turnarounds shall be approved by the Deputy State Fire Marshal and, if needed, clearly marked when a dead-end street exceeds 150 feet or when otherwise required.
- Applicable construction drawings, or other approved documents, shall contain provisions that prohibit obstructions, such as speed bumps/humps, control gates, or other modifications within said easement or access road, unless prior approval is obtained from the Deputy State Fire Marshal.
- The locations of red curbing and signage and a drawing of the proposed signage with the height, stroke, color of lettering, and contrasting background color.

B. The fire lanes shall be installed in accordance with the approved fire lane plan prior to building occupancy. The construction drawings or other approved documents shall contain a fire lane map and provisions that prohibit parking in the fire lanes. The method of enforcement shall be documented.

Mitigation Measure 10-4

Prior to issuance of the Notice to Proceed, plans for the fire alarm system shall be submitted by the California Construction Authority to the Deputy State Fire Marshal for review and approval. This system shall be operational in a manner meeting the approval of the Deputy State Fire Marshal prior to building occupancy.

Mitigation Measure 10-5

Prior to construction, the builder shall submit a letter on company letterhead to the OCFEC General Manager stating that water for firefighting purposes and all-weather fire protection access roads shall be in place and operational before any combustible material is placed on site. The California Construction Authority shall verify inclusion of this measure on construction plans and in all construction contracts prior to issuance of the Notice to Proceed.

Mitigation Measure 10-6 Prior to issuance of the Notice to Proceed, the California Construction Authority shall provide the Costa Mesa Sanitary District with a map of the on-site sewers. All necessary permits required for connection to the sewer system will be obtained or renewed, as needed.

Mitigation Measure 10-7 Prior to issuance of the Notice to Proceed, the OCFEC and/or the California Construction Authority shall prepare a Waste Management Plan for approval by the 32nd DAA Board of Directors. Final design plans shall clearly identify the current number, capacity, and location of all bin enclosures and recycle containers.

7.11 RECREATION

Mitigation Measures

No mitigation measures are necessary for recreation.

7.12 TRAFFIC AND CIRCULATION

Mitigation Measures

Mitigation Measure 12-1 Prior to commencement of construction, the California Construction Authority will coordinate with the City of Costa Mesa regarding haul routes and postproject street maintenance specifically pertaining to removing material from the project during grading and construction periods.

8.0 INVENTORY OF UNAVOIDABLE AND ADVERSE IMPACTS

8.1 AIR QUALITY

The proposed project will have significant unavoidable short-term construction air quality impacts for nitrogen oxide (NO_X) and fugitive dust (PM_{10}). Mitigation measures will be applied to reduce NO_X and PM_{10} to the degree feasible; however, the levels will remain above the threshold of significance. The proposed project will also have significant unavoidable long-term operational air quality impacts under Interim Event with Concert conditions for carbon monoxide (CO), NO_X, and reactive organic compounds (ROC). There are no feasible mitigation measures to reduce vehicular trip related emissions.

Additionally, the long-term cumulative impacts of implementation of the Master Plan will contribute to an incremental increase of NO_X, ROC, and CO emissions due to additional vehicular trips under the Interim Event with Concert scenario and vehicular trips generated by existing and new development in the project vicinity. As stated above, there are no feasible measures to mitigate these impacts to below a level of significance at this time, and therefore they remain significant cumulative impacts.

9.0 ALTERNATIVES TO THE PROPOSED PROJECT

9.1 SELECTION OF THE ALTERNATIVES AND SCOPE OF THE ANALYSIS

CEQA requires that an EIR describe a range of reasonable alternatives to the project, or to the location of the project, that could feasibly attain the basic objectives of the project but would avoid or substantially lessen any of the significant effects and that it evaluate the comparative merits of the alternatives. This chapter sets forth potential alternatives to the Proposed Project and evaluates them, as required by CEQA and the CEQA Guidelines.

Key provisions of the CEQA Guidelines on alternatives (Section 15126.6) are summarized below to explain the foundation and legal requirements for the alternatives analysis of the EIR:

- The discussion of alternatives shall focus on alternatives to the project or its location that are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives or would be more costly. 15126.6(b)
- The "no project" alternative shall be evaluated along with its impact. The "no project" analysis shall discuss the existing conditions, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved. If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." 15126.6 (e) (2)
- The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. 15126.6 (f)
- Factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, and other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonable acquire, control, or otherwise have access to the alternative site. 15126.6 (f)(1)
- For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR. 15126(f)(3)
- An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative. 15126.6(f)(3)

This chapter identifies and analyzes alternatives to the project that could attain the basic project objectives and that would be reasonable and feasible for the project site. Alternatives that do not attain all of the project objectives but that are capable of eliminating or reducing impacts that have been determined to be significant for the proposed project have also been evaluated. Table 9.A

provides a summary of the alternatives analysis. For each alternative, the analysis provides the following:

- Description of the alternatives
- Impacts of the alternative and significance of those impacts (per the CEQA Guidelines, significant effects of an alternative shall be discussed, but in less detail that the significant effects of the project as proposed)
- Comparison of the alternative relative to the proposed project, specifically addressing project objectives, feasibility, the elimination or reduction of impacts, and comparative environmental merits

The alternative selection process included participation by the 32nd District Agricultural Association (32nd DAA) Board of Directors to identify physical and policy related constraints. Meeting project objectives, traffic and roadway capacity, and air and noise concerns were determined to be the primary factors in determining the appropriate alternatives for further analysis. At the request of the 32nd DAA Board of Directors, the three design alternatives presented during the public review period for the Master Plan process were included in this EIR for environmental analysis and comparison to the proposed project.

The following alternatives to the proposed project were developed pursuant to the requirements of Section 15126 of the CEQA Guidelines. Alternatives to the proposed project will be evaluated as follows:

Alternative 1: No Project/No Build

Consistent with Section 15126.6 of the CEQA Guidelines, the No Build Alternative is the existing condition of the project site at the time the Notice of Preparation (NOP) was published. The setting of the site at the time of the NOP is described in the Project Description, Chapter 3.0 of this EIR. This alternative evaluates the environmental impacts associated with no changes to the project site.

Alternative 2: Design Alternative A

Under this alternative, the arrangement of the buildings would be different from that of the proposed project; however, the program would remain essentially the same as the proposed project.

Alternative 3: Design Alternative B

Under this alternative, the arrangement of the buildings would be different from that of the proposed project. Design Alternative 2 also proposes a reduction and eventual phase out of the EQC, replacing this use with additional parking and perhaps relocating the swap meet to the north. The remaining program of this alternative is similar to that of the proposed project.

Alternative 4: Design Alternative C

Under this alternative, the arrangement of the buildings would be different from that of the proposed project. In the previous two land use concepts, the restrooms and snack bar associated with the swap meet (in the parking lot) have been removed/relocated. Design Alternative 3 allows these structures to remain while also providing an additional parking area with direct access to Arlington Drive.

Alternative 5: Mixed-Use Commercial-Residential Alternative

This alternative would result in construction of a mixed use development project composed of the following potential uses: open space, retail, restaurants, and hotels with a FAR consistent with the recently adopted City of Costa Mesa General Plan.

Alternative 6: Low Density Residential Alternative

The Low Density Residential Alternative consists of a low density residential use of the property and a large community park. At 8 density units per acre on 100 acres, the development would result in construction of roughly 800 single family homes. The remaining 50 acres would be used for parkland.

Alternative 7: Alternate Location

CEQA Guidelines Section 15126.6(f)(2)(A) states that "the key question [with regard to alternative locations] and first step in analysis is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR." This alternative considers the relocation of the Fairgrounds to a ±300-acre site on the former MCAS El Toro. Refer to Figure 9.4 for the location of the alternative site.

9.2 SUMMARY OF PROPOSED PROJECT

As previously noted, alternatives must be evaluated as to their ability to reduce or eliminate significant unavoidable adverse environmental impacts associated with the proposed project including an alternate location, and feasibly attain the basic objectives of the project. The comparative merits of the different alternatives are evaluated in accordance with CEQA.

The proposed project is the adoption and implementation of the Orange County Fair and Exposition Center (OCFEC) Master Plan. The project site is a ±150-acre site in the City of Costa Mesa, where the OCFEC is currently located.

Each project alternative is analyzed to determine whether it achieves the objectives of the proposed project. The project objectives are repeated below for reference:

1. Develop the Fairgrounds in a manner that continues to provide appropriate facilities for all the activities that occur at the OCFEC, including the annual summer fair.

2. Develop and implement a Master Plan for the Fairgrounds that will provide opportunities to cautiously expand and add facilities to accommodate the growing events and conference market in Orange County.

3. Develop and implement a Master Plan for the Fairgrounds that will encourage simultaneous activities.

4. Develop and implement a Master Plan that will allow the Fairgrounds to serve the diverse ethnic and cultural populations of Orange County.

5. Develop and implement a Master Plan that will allow the Fairgrounds to provide a continued opportunity for weekend retail uses.

6. Develop and implement a Master Plan for the Fairgrounds that will preserve and provide for the expansion of Centennial Farm as the signature element of the OCFEC.

7. Develop and implement a Master Plan for the Fairgrounds that will establish a visual and aesthetic identity for the OCFEC using common thematic design elements that highlight the cultural, historical, and recreational aspects of California and Orange County.

8. Develop and implement a Master Plan for the Fairgrounds that will restore concerts, plays, and other community events to the Pacific Amphitheater in a manner that will minimize adverse impacts to surrounding neighborhoods.

9. Develop and implement a Master Plan that will allow the OCFEC to maintain a financially independent status while meeting community needs.

Significant and Unavoidable Environmental Effects of the Proposed Project

The following significant unavoidable adverse environmental impacts of the proposed project have been identified in the environmental analysis of this EIR.

Air Quality. Air Quality impacts relate to the increase in traffic (emissions from mobile sources) and emissions from construction activities while the project is being built. The project will result in significant short-term air quality impacts resulting from construction activities, including impacts from NO_X and fugitive dust (PM_{10}), and significant long-term air quality impacts due to emissions of CO, NO_X, and ROC generated by increased vehicle traffic under the Interim Event with Concert scenario. Although standard conditions and mitigation measures will be required in accordance with South Coast Air Quality Management District rules, significant adverse environmental impacts will remain.

9.3 ALTERNATIVES TO THE PROPOSED PROJECT

The following discussion provides analysis of the six alternatives to the proposed project, including comparison of the environmental effects of each alternative with those of the proposed project. Five alternatives were identified as feasible alternatives to the proposed project. Three were design alternatives similar to the proposed project in terms of square footage and programming, and two alternatives compared the proposed project to residential and commercial uses. Each of the environmental topics discussed in Chapter 4.0 is addressed for each alternative.

9.3.1 No Project–No Build Alternative

Description. As outlined in CEQA Guidelines Section 15126.6(e)(2), the "no project" analysis shall discuss "what would be reasonably expected to occur in the foreseeable future if the project were not approved based on current plans and consistent with available infrastructure and community services."

Under this alternative, the proposed project site is analyzed according to its current condition and use, assuming no future development of the property will occur.

Environmental Analysis.

Aesthetics. Under the No Project/No Build Alternative, the site's current aesthetic characteristic would remain constant, assuming regular maintenance. The present means of accommodating existing users and proposed programming would continue to occur on an as-needed basis. There would no long-term guidance for the location, size, and mass of new structure. Therefore, it is possible that the No Project/No Build Alternative could result in no change in the site's aesthetics, or even in a reduced visual quality.

Air Quality. The No Project/No Build Alternative would result in similar air quality impacts associated with the proposed project. The primary difference between this alternative and the proposed project is that the earthen berm associated with the amphitheater would not be removed. Therefore, this alternative would not have the short-term construction related NO_X and PM_{10} (fugitive dust) impacts associated with removing the berm (approximately 200,000 cubic yards of material). The No Project/No Build Alternative could accommodate a greater number of patrons than what is called for in the proposed project. Therefore, the long-term air quality impacts for CO, ROC, and NO_X, would remain the same as, if not greater than, the proposed project.

Biological Resources. Under the No Project/No Build Alternative, biological impacts would remain similar to those associated with the proposed project in the long term. At this time, very little, if any, habitat or habitat value is found on the site.

Cultural Resources. It is assumed that some of the existing structures would remain in their present location under the No Project/No Build Alternative, at least in the short term. However, a cultural survey revealed that no existing structures represent a cultural or historical value, and therefore the potential cultural impacts associated with this alternative would remain the same as those associated with the proposed project.

Earth Resources and Topography. Currently, the site does not possess any distinguishing topographic features or geologic landmarks. The artificially created amphitheater berm would remain in place. However, removing the berm as a part of the proposed project is not considered a significant effect. Therefore, the No Build/No Project Alternative's potential impact on topography and earth resources would not be different from that of the proposed project.

Hydrology and Water Quality. The No Project/No Build Alternative would maintain the existing stormwater drainage system, in the near future. There are no current plans to consolidate drainage subareas and implement significant changes to the existing water quality system on site. The proposed project incorporates a comprehensive drainage and water quality control plan to be implemented by phase. Therefore, this alternative could result in potentially greater hydrology and water quality impacts than those associated with the proposed project.

Land Use. Although the OCFEC is exempt from municipal land use policies, the City of Costa Mesa General Plan addresses the proposed project area. The project area is currently designated "Fairgrounds" in the General Plan of Costa Mesa (2002) and has a maximum allowable floor area ratio (FAR) of 0.10, producing a maximum total of 653,397 square feet (sf) of building space on the 150-acre site. The No Project/No Build Alternative assumes that the site will continue to operate as a Fairgrounds with daily activities. The proposed project does not call for a significantly greater amount of building square footage, and therefore land use impacts associated with the No Build/No Project Alternative are relatively the same as those of the proposed project.

Noise. The No Project/No Build Alternative would provide for continued use of the site by a wide variety of users for a wide variety of events. The existing ambient noise setting has an urban characteristic and is not expected to change from the continued use of the Fairgrounds in its current condition, or with the proposed project.

Population and Housing. The surrounding residential neighborhoods are relatively established and maintained in a sound neighborhood condition. Employment opportunities will not significantly change as a result of the proposed project. Therefore, the No Project/No Build Alternative is comparable to the proposed project in terms of potential impacts on local population and housing.

Public Services and Utilities. The No Project/No Build Alternative would maintain existing use levels. The demand placed on public serves and utilities, however, would be roughly equivalent to that anticipated under the proposed project because the proposed project does not call for a significantly greater amount of building square footage or significant use intensification. Therefore, the No Project/No Build Alternative is considered comparable to the proposed project regarding public services and utilities.

Recreation. The No Build/No Project Alternative would continue to provide the same degree, intensity, and frequency of recreational opportunities that currently exist. The proposed project will continue with the same programming, however, with a slight increase in covered square footage and open space. Therefore, the No Build/No Project's potential impact on recreational opportunities would not be different from that of the proposed project.

Traffic and Circulation. The No Build/No Alternative would not create additional traffic such as the proposed project. It should be expected that the existing trend of growing interest in use of the Fairgrounds and pressure to expand programming would result in a general, incremental increase in traffic. It was determined that the proposed project will not result in significant long-term traffic/circulation effects. Therefore, the No Build/No Project's potential traffic/circulation impacts would be comparable to those associated with the proposed project.

Comparison with Proposed Project's Significant Impacts and Objectives. If it is assumed that without the proposed project the amphitheater would not re-open for regular periodic (non-Fair) events, the No Build/No Project Alternative may result in less than significant air quality impacts. However, within the context of the No Build/No Project Alternative, it is possible that the Amphitheater could reopen assuming the implementation of appropriate noise mitigation measures. These same noise mitigation measures are also required for the amphitheater to open for regular events throughout the year within the context of the proposed project. Therefore, this alternative does not ultimately represent a reduction in significant impacts associated with the proposed project.

The No Build/No Project Alternative is not consistent with several of the proposed project's objectives, among which are the following:

- Develop and implement a Master Plan for the Fairgrounds that will provide opportunities to cautiously expand and add facilities to accommodate the growing events and conference market in Orange County.
- Develop and implement a Master Plan for the Fairgrounds that will preserve and provide for the expansion of Centennial Farm as the signature element of the OCFEC.
- Develop and implement a Master Plan for the Fairgrounds that will establish a visual and aesthetic identity for the OCFEC using common thematic design elements that highlight the cultural, historical, and recreational aspects of California and Orange County.

[NOTE: The Following three alternatives (Design A, Design B, and Design C) are very similar to the proposed project. These design alternatives, as well as the proposed project, were presented to the general public and various interests groups at several meetings. Although, these design alternatives are similar to the proposed project and normally would not warrant further environmental review, a commitment was made to the general public and interest groups to incorporate the alternatives as part of the environmental documentation and review process. For this reason, they are considered here as project alternatives.]

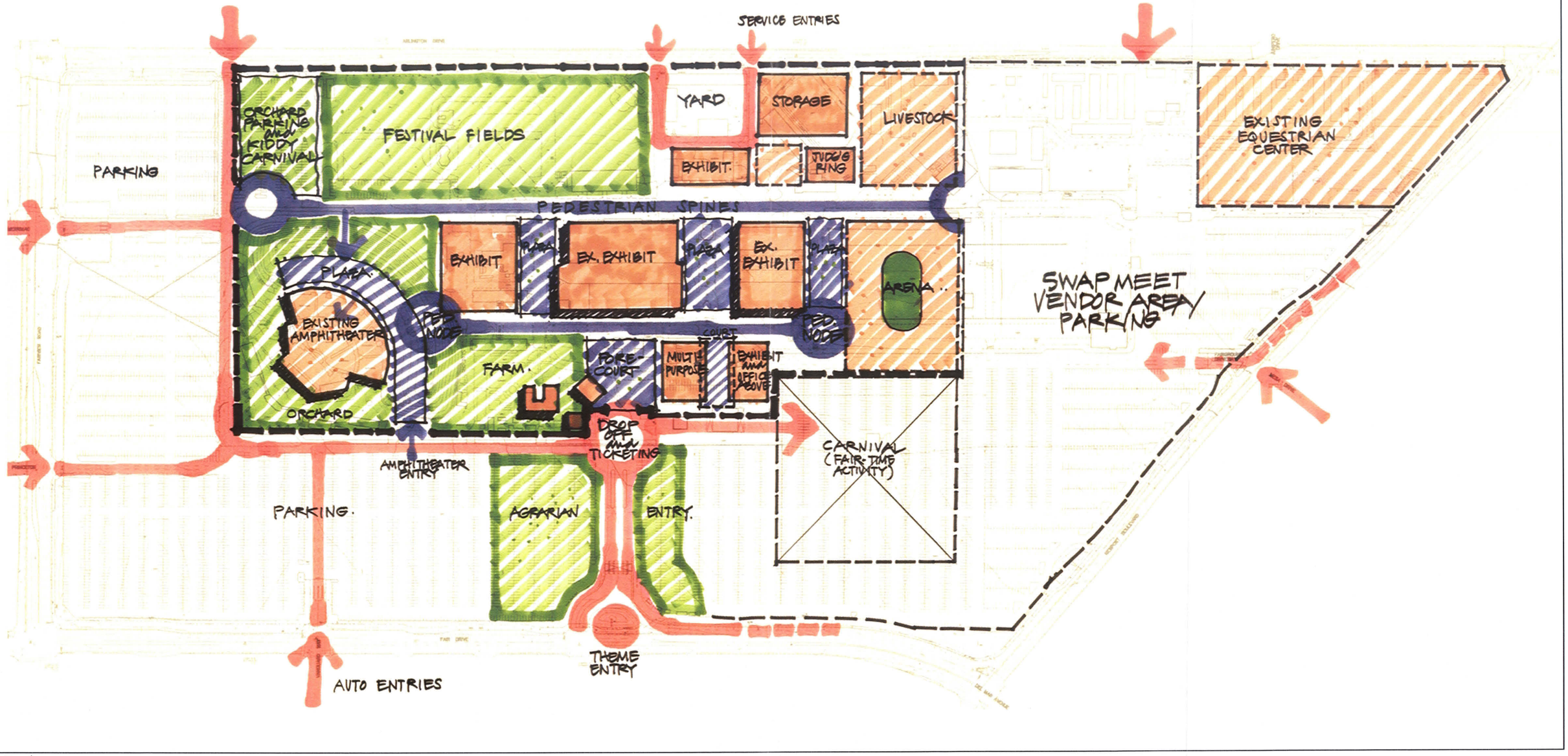
9.3.2 Design Alternative A—Cul-de-Sac Entry

Description. This plan locates a new exhibit building near the amphitheater, expanding the core building area. Another prominent feature of this design alternative is a prominent pedestrian spine that runs east to west through the Fairgrounds proper. In addition, the livestock buildings will be replaced with new structures, perhaps one being a large, open-air building with only a roof. Several new office buildings, one reserved for the administrative staff, will be located east of the terminus of the main entry off of Fair Drive. These new buildings, with the existing millennium barn, will "frame" a cul-de-sac drop-off point. A new, larger arena is proposed for the east-central portion of the Fairgrounds. This new arena will provide a corresponding "anchor" structure opposite the amphitheater. The equestrian center (EQC) is reduced in area by approximately 50 percent, reflecting the current number of occupied stalls (actually 10 percent more than the number of occupied stalls). Reducing the EQC provides an additional means of entry into the eastern parking area and weekend swap meet area, as well as more parking near activity zones. The carnival lot is relocated to the south, nearer Fair Drive. Figure 9.1 is an illustration of Design Alternative A.

Environmental Analysis.

Aesthetics. Under Design Alternative A, the project site would be improved with buildings of similar height and mass as the proposed project. Although, this Design Alternative requires the removal of the berm surrounding the amphitheater, the views of the site from adjacent arterial corridors and surrounding residential neighborhoods would be very little changed. Entrances to the Fairgrounds would be landscaped. The Arena is relocated away from the Fairgrounds edge and replaced with livestock areas and a storage facility. The varying layout could affect local views from different perspectives but would not necessarily degrade the aesthetic quality of the area. Design Alternative A is considered comparable to the proposed project regarding potential aesthetic impacts.

Air Quality. Under Design Alternative A, air pollutant emissions would be similar to the proposed project. Removal of the berm and construction of new buildings would require grading and site preparation to accommodate equipment, automobiles, and trucks traveling to and from the project site during construction, as well as soil particulate resulting from grading activities. Design Alternative A would also generate similar increases in traffic under the Interim Event with Concert scenario.



LSA

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Scale in Feet

0 200

FIGURE 9.1

Orange County Fair and Exposition Center

Design Alternative A

I:\Ccz030\G\Design Alt A.cdr (12/20/02)

Construction air quality impacts would be comparable to the proposed project because of similar grading requirements and traffic generation potential. Overall, Design Alternative A would have impacts on air quality similar to those of the proposed project.

Biological Resources. Under this alternative, biological impacts would be similar to those of the proposed project, which is considered less than significant. The project site has experienced substantial landscape disturbance over an extended period of time and is composed of buildings, paved and unpaved parking areas, and ornamental landscaping. Consequently, very little or no available wildlife habitat or habitat value is found on the site or within adjacent land uses. Design Alternative A is considered comparable to the proposed project regarding potential impacts to biological resources.

Cultural Resources. As with the proposed project, Design Alternative A would not impact any historical or paleontological resources. Although several structures from the Santa Ana Army Air Base remain on the Fairgrounds, none are in their original location or condition. Design Alternative A is considered comparable to that of the proposed project in terms of cultural resources.

Earth Resources and Topography. Under this alternative, the impact on topography and earth resources would be similar to those of the proposed project, which is considered less than significant. The original landforms on the proposed project site were previously modified in order to construct the current site use (i.e., the OCFEC). Design Alternative A calls for grading—including the removal of the 200,000 cubic yards of earthen material contained in the berm surrounding Pacific Amphitheater —but will affect only previously modified landforms. Therefore, Design Alternative A is considered comparable to the proposed project regarding topography and earth resources.

Hydrology and Water Quality. Under this alternative, impacts to hydrology and water quality would be similar to the proposed project. Design Alternative A would require improvements to the surface drainage system similar to those of the proposed project. Presently, the total drainage area of the project site is approximately 147 acres. Both Design Alternative A and the proposed project increase impervious areas in the north drainage area by approximately 7 acres with the construction of new parking lots and buildings. Expected short-term water quality impacts include increased sedimentation due to the disturbance of exposed soils during grading, increased potential for non-visible pollutants to enter the storm drain system from construction materials, and non-stormwater discharges associated with construction activities such as street washing. With implementation of proper mitigation measures and standard conditions, Design Alternative A is considered comparable to the proposed project in terms of hydrology and water quality impacts.

Land Use. Although the OCFEC is exempt from municipal land use policies, the City of Costa Mesa General Plan addresses the proposed project area. The project area is currently designated "Fairgrounds" in the General Plan of Costa Mesa (2002) and has a maximum allowable floor area ratio (FAR) of 0.10, producing a maximum total of 653,397 square feet (sf) of building space on the 150-acre site. This is approximately the same amount of square footage produced in the proposed project. Therefore, Design Alternative A is considered comparable to the proposed project in terms of plan consistency and land use compatibility.

Noise. Design Alternative A would involve on-site activities of a similar type and intensity as the proposed project. Noise exposure for the adjacent residential areas and other uses would be similar under Design Alternative A as under the proposed project for on-site uses.

Design Alternative A would generate roughly an equal number of daily trips as the proposed project. As a result, noise levels produced by site-related traffic would be similar under Design Alternative A to those of the proposed project.

Population and Housing. Design Alternative A would result in no residential development on the project site and no direct population growth. Employment opportunities would be similar to those associated with the proposed project. Design Alternative A is considered comparable to the proposed project in terms of impacts on population and housing.

Public Services and Utilities. Design Alternative A would involve on-site activities of a similar type and intensity as the proposed project. As a result, the potential demand placed on public services and utilities would be equivalent to that anticipated under the proposed project. Therefore, Design Alternative A is considered comparable to the proposed project regarding public services and utilities.

Recreation. This alternative provides the same recreational opportunities as the proposed project, whose impacts to surrounding trails and other recreational resources are less than significant.

Traffic and Circulation. Design Alternative A would generate roughly the same number of daily trips as the proposed project. Interior access to the site would be similar to that of the proposed project, with primary access from Fair Drive and secondary access from Arlington Drive, Newport Boulevard, and Fairview Road. Therefore, Design Alternative A is considered comparable to the proposed project regarding traffic and circulation.

Comparison with Proposed Project's Significant Impacts and Objectives. Although Design Alternative A meets the project objectives, this alternative does not avoid or substantially lessen any

of the cumulative unavoidable and significant impacts of the proposed project as described in Chapter 8.0.

9.3.3 Design Alternative B—Reduced Festival Fields

Description. This plan is similar to both the proposed project and Design Alternative 1, with the following exceptions: There is an enhanced agrarian entry off Fair Drive. The new arena and a large storage area/building are located adjacent to Arlington Drive, reducing the total size of the festival field. The carnival lot is reconfigured to be oriented north-south. The carnival lot and arena form the eastern edge of the Fairgrounds, creating a new gate/entry opportunity. Design Alternative B also proposes a reduction and eventual phasing out of the EQC, replacing this use with additional parking and perhaps relocating the swap meet to the north. Ample parking would then be equally distributed throughout the site, providing access for all events from every surrounding public street. Figure 9.2 is an illustration of Design Alternative B.

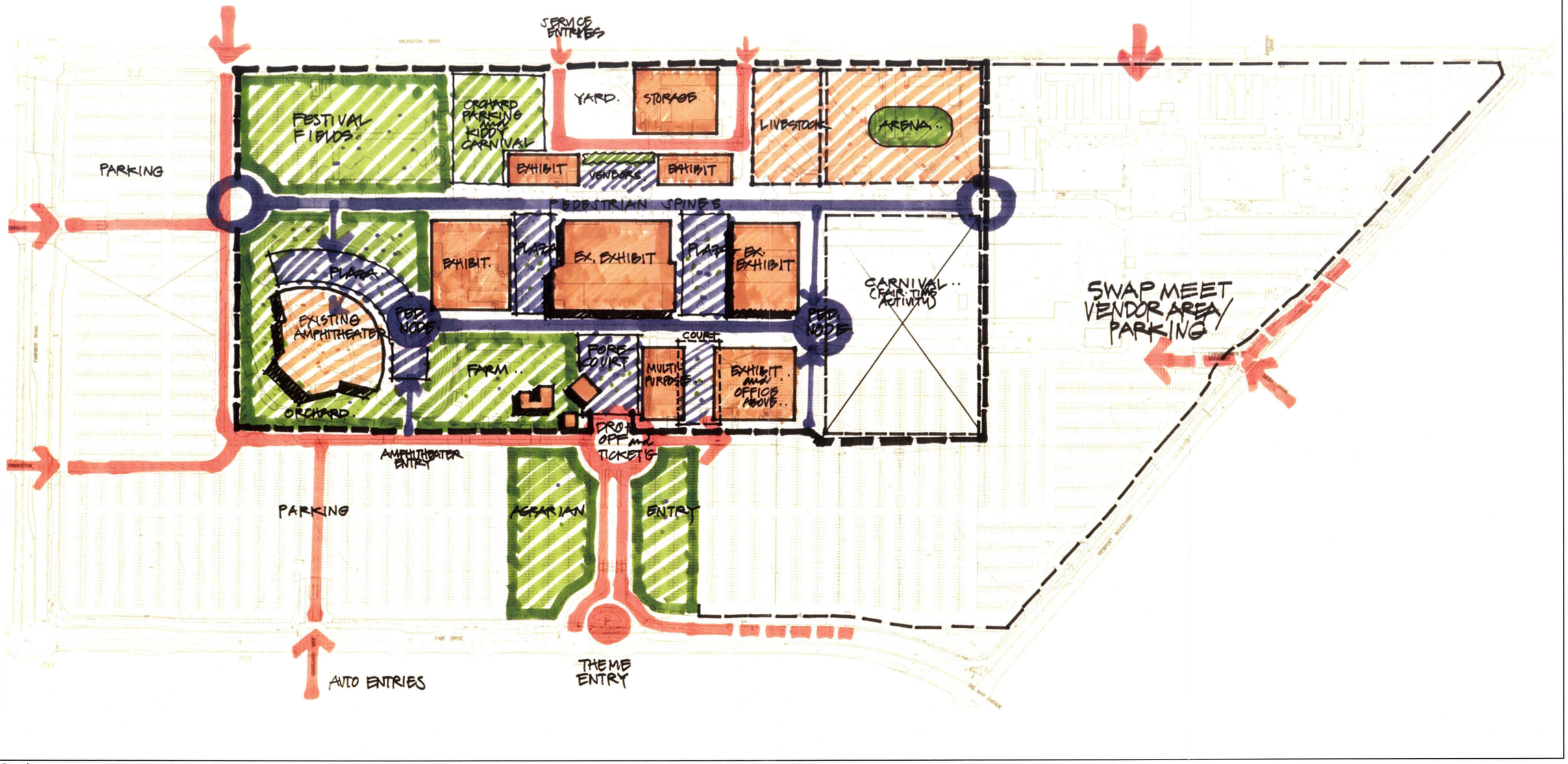
Environmental Analysis.

Aesthetics. Under Design Alternative B, the project site would be redeveloped with buildings of similar height and mass as the proposed project. This Design Alternative requires the removal of the berm surrounding Pacific Amphitheater; however, views of the site from adjacent arterial corridors and surrounding residential neighborhoods would be very little changed as a result of its removal. Entrances to the Fairgrounds would be landscaped. The Equestrian Center, visible from the corner of Newport Boulevard and Arlington Drive would be replaced with parking. Design Alternative B would have aesthetic impacts comparable to those of the proposed project.

Air Quality. Under Design Alternative B, air pollutant emissions would be similar to those of the proposed project. Removal of the berm and construction of new buildings would require grading and site preparation to accommodate equipment, automobiles, and truck traveling to and from the project site during construction, as well as fine particulates resulting from the increased grading area. Design Alternative B would also generate similar increases in traffic under the Interim Event with Concert scenario.

Construction air quality impacts would be comparable to those of the proposed project because of similar grading requirements and traffic generation potential. Overall, Design Alternative B would have impacts on air quality similar to those of the proposed project.

Biological Resources. Under this alternative, biological impacts would be similar to those of the proposed project, which is considered less than significant. The project site has experienced substantial landscape disturbance over an extended period of time and is composed of buildings, paved and unpaved parking area, and ornamental landscaping. Consequently, little or no



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Scale in Feet

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FIGURE 9.2

Orange County Fair and Exposition Center

Design Alternative B

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available wildlife habitat or habitat value is found on the site or within adjacent land uses. The Design Alternative B is considered comparable to the proposed project regarding potential impacts to biological resources.

Cultural Resources. As with the proposed project, Design Alternative B would not impact any historical or paleontological resources. Although several structures remain from the Santa Ana Army Air Base on the Fairgrounds, none are in their original location or condition. Design Alternative B is considered comparable to the proposed project in terms of cultural resources.

Hydrology and Water Quality. Under this alternative, impacts to hydrology and water quality would be greater than the proposed project.. Design Alternative B would require improvements to the surface drainage system similar to those of the proposed project. Presently, the total drainage area of the project site is approximately 147 acres. Design Alternative B proposes to increase impervious areas in the north drainage area by approximately 14 acres with the construction of new parking lots and buildings where the Equestrian Center is presently located. As a consequence, surface runoff will increase in the north drainage area, which drains to Arlington Drive. Design Alternative B increases flood hazard potential on Arlington Drive to a greater degree than the proposed project. Expected short-term water quality impacts include increased sedimentation due to the disturbance of exposed soils during grading, increased potential for non-visible pollutants to enter the storm drain system from construction materials, and non-stormwater discharges associated with construction activities such as street washing. Overall, Design Alternative B may have greater impacts than the proposed project in terms of hydrology and water quality because of the increase in impervious surfaces on the project site.

Land Use. Although the OCFEC is exempt from municipal land use policies, the City of Costa Mesa General Plan addresses the proposed project area. The project area is currently designated "Fairgrounds" in the General Plan of Costa Mesa (2002) and has a maximum allowable floor area ratio (FAR) of 0.10, producing a maximum total of 653,397 square feet (sf) of building space on the 150-acre site. Design Alternative B calls for essentially the same square footage as the proposed project. Therefore, Design Alternative B is considered comparable to the proposed project in terms of plan consistency and land use compatibility.

Noise. Design Alternative B would involve on-site activities of a similar type and intensity as the proposed project. The location of the arena, however, would bring a noise source closer to local residents than the proposed plan. Without substantial mitigation, activity at the Amphitheater may also result in increased noise levels in the surrounding neighborhoods. Taking into account the nature of arena activities (e.g., speedway, demolition derbies, etc.) and the noise generated by amphitheater activity, noise exposure for the adjacent residential areas and other uses would be greater under Design Alternative B than under the proposed project.

Design Alternative B would generate roughly an equal number of daily trips as the proposed project. As a result, noise levels produced by site-related traffic would be similar under Design Alternative B as compared to the proposed project.

Population and Housing. Design Alternative B would result in no residential development on the project site and no direct population growth. Employment opportunities would be similar to those associated with the proposed project. Design Alternative B is considered comparable to the proposed project in terms of impacts on population and housing.

Public Services and Utilities. Design Alternative B would involve on-site activities of a similar type and intensity as the proposed project. As a result, the potential demand placed on public services and utilities would be equivalent to that anticipated under the proposed project. Therefore, Design Alternative B is considered comparable to the proposed project regarding public services and utilities.

Earth Resources and Topography. Under this alternative, the impact on topography and earth resources would be similar to the proposed project, which is considered less than significant. The original landforms on the proposed project site were previously modified in order to construct the current site use (i.e., OCFEC). Design Alternative B calls for grading—including the removal of the 200,000 cubic yards of earthen material contained in the berm surrounding Pacific Amphitheater —but will affect only previously modified landforms. Therefore, Design Alternative B is considered comparable to the proposed project regarding topography and earth resources.

Recreation. This alternative would remove the Equestrian Center from the OCFEC. The removal of the EQC is a negative impact to recreational opportunities in the area and is also counter to project objectives. This impact cannot be mitigated; therefore, Design Alternative B has greater recreation impacts than the proposed project.

Traffic and Circulation. Design Alternative B would generate roughly the same number of daily trips as the proposed project. Interior access to the site would be similar to the proposed project, with primary access from Fair Drive and secondary access from Arlington Drive, Newport Boulevard, and Fairview Road. Therefore, Design Alternative B is considered comparable to the proposed project regarding traffic and circulation.

Comparison with Proposed Project's Significant Impacts and Objectives. Design Alternative B will result in more project related aesthetic, noise, recreation, and hydrology and water quality impacts than the proposed project. As such, this alternative does not avoid or substantially lessen any of the cumulative unavoidable and significant impacts of the proposed project as described in Chapter

8.0. This alternative also reduces the range of activities occurring at the Fairgrounds in opposition to the project objectives.

9.3.4 Design Alternative C—Circular Drive Entry

Description. Design Alternative C departs from the previous land use concepts in several ways. First, it introduces a circular entry drive, still incorporating the agrarian zone. The primary drop-off point is framed by Centennial Farm and the amphitheater. This new entry greatly emphasizes Centennial Farm and allows for a view directly north through the Fairgrounds into the Festival Fields area and beyond. Again, the EQC is reduced by approximately 50 percent of its current size (or seven acres), and direct public access is provided from Arlington Drive.

In the previous two land use concepts, the restrooms and snack bar associated with the swap meet (in the parking lot) have been removed/relocated. Design Alternative C allows these structures to remain and the swap meet area to expand to Arlington Drive.

The carnival lot is shifted to the south, maintaining its current configuration and area. The location of the carnival lot in this alternative would require the weekend swap meet to close for an additional two weeks at Fair time for set-up and closing activities.

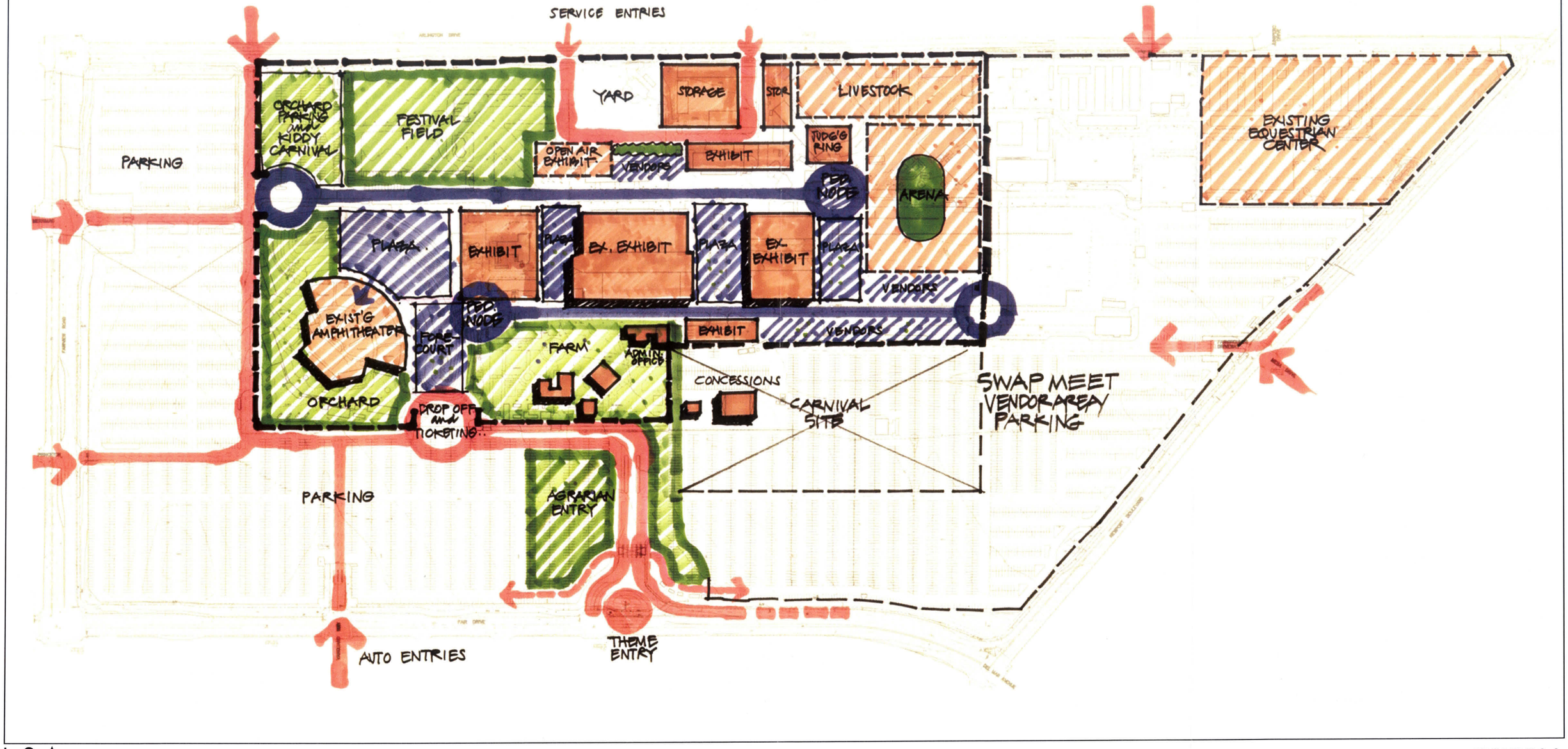
The other main difference between Design Alternative C and the other concepts is that the two parking areas on both sides of the primary entry from Fair Drive are connected with an aisle near Fair Drive, as opposed to the northern edge of these parking areas.

Figure 9.3 is an illustration of Design Alternative C.

Environmental Impacts.

Aesthetics. Under Design Alternative C, the project site would be redeveloped with buildings of similar height and mass as the proposed project. Although this Design Alternative requires the removal of the berm surrounding the amphitheater, the views from adjacent arterial corridors and surrounding residential neighborhoods would be little changed. Entrances to the Fairgrounds would be landscaped. The Arena is relocated away from the Fairgrounds edge and replaced with livestock areas and a storage facility. The varying layout could affect local views from different perspectives but would not necessarily degrade the aesthetic quality of the area. Design Alternative C is considered comparable to the proposed project regarding potential aesthetic impacts.

Air Quality. Under Design Alternative C, air pollutant emissions would be similar to the proposed project. Removal of the berm and construction of new buildings would require grading and site preparation to accommodate equipment, automobiles, and trucks traveling to and from the project site during construction, as well as fine particulates resulting from the increased



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Scale in Feet

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FIGURE 9.3

Orange County Fair and Exposition Center

Design Alternative C

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grading area. Design Alternative C would also generate similar increases in traffic under the Interim Event with Concert scenario.

Construction air quality impacts would be comparable to the proposed project because of similar grading requirements and traffic generation potential. Overall, Design Alternative C would have similar impacts on air quality as the proposed project.

Biological Resources. Under this alternative, biological impacts would be similar to the proposed project, which is considered less than significant. The project site has experienced substantial landscape disturbance over an extended period of time and is composed of buildings, paved and unpaved parking area, and ornamental landscaping. Consequently, very little or no available wildlife habitat or habitat value is found on the site or within adjacent land uses. Design Alternative C is considered comparable to the proposed project regarding potential impacts to biological resources.

Cultural Resources. As with the proposed project, Design Alternative C would not impact any historical or paleontological resources. Although several structures remain on the Fairgrounds from the Santa Ana Army Air Base, none are in their original location or condition. Design Alternative C is considered comparable to the proposed project in terms of cultural resources.

Hydrology and Water Quality. Under this alternative, impacts to hydrology and water quality would be similar to those of the proposed project. Design Alternative C would require improvements to the surface drainage system similar to the proposed project. Presently, the total drainage area of the project site is approximately 147 acres. Both Design Alternative C and the proposed project increase impervious areas in the north drainage area by approximately seven acres with the construction of new parking lots and buildings. Expected short-term water quality impacts include increased sedimentation due to the disturbance of exposed soils during grading, increased potential for non-visible pollutants to enter the storm drain system from construction materials, and non-stormwater discharges associated with construction activities such as street washing. With implementation of proper mitigation measures and standard conditions, Design Alternative C is considered comparable to the proposed project in terms of hydrology and water quality impacts.

Land Use. Although the OCFEC is exempt from municipal land use policies, the City of Costa Mesa General Plan addresses the proposed project area. The project area is currently designated "Fairgrounds" in the General Plan of Costa Mesa (2002) and has a maximum allowable floor area ratio (FAR) of 0.10, producing a maximum total of 653,397 square feet (sf) of building space on the 150-acre site. Design Alternative C is essentially the same square footage as the proposed project, but it has slightly less exhibit space. Therefore, Design Alternative C is considered comparable to the proposed project in terms of plan consistency and land use compatibility.

Noise. Design Alternative C would involve on-site activities of a similar type and intensity as those of the proposed project. Without substantial mitigation, non-Fair concert events at the Amphitheater may result in increased noise levels in the surrounding neighborhoods. Noise exposure for the adjacent residential areas and other uses would be similar under Design Alternative C as under the proposed project.

Design Alternative C would generate roughly an equal number of daily trips as the proposed project. As a result, noise levels produced by site-related traffic would be similar to the proposed project under Design Alternative C.

Population and Housing. Design Alternative C would result in no residential development on the project site and no direct population growth. Employment opportunities would be similar to those associated with the proposed project. Design Alternative C is considered comparable to the proposed project in terms of impacts on population and housing.

Public Services and Utilities. Design Alternative C would involve on-site activities of a similar type and intensity as the proposed project. As a result, the potential demand placed on public services and utilities would be equivalent to that anticipated under the proposed project. Therefore, Design Alternative C is considered comparable to the proposed project regarding public services and utilities.

Topography and Earth Resources. Under this alternative, the impact on topography and earth resources would be similar to the proposed project, which is considered less than significant. The original landforms on the proposed project site were previously modified in order to construct the current site use (i.e., OCFEC). Design Alternative C calls for grading—including the removal of the 200,000 cubic yards of earthen material contained in the berm surrounding Pacific Amphitheater —but will affect only previously modified landforms. Therefore, Design Alternative C is considered comparable to the proposed project regarding topography and earth resources.

Recreation. This alternative provides the same recreational opportunities as the proposed project. As with the proposed project, the impacts to surrounding trails and other recreational resources are less than significant.

Traffic and Circulation. Design Alternative C would generate roughly the same number of daily trips as the proposed project. Interior access to the site would be similar to the proposed project, with primary access from Fair Drive and secondary access from Arlington Drive, Newport Boulevard, and Fairview Road. Therefore, Design Alternative C is considered comparable to the proposed project regarding traffic and circulation.

Comparison with the Proposed Project's Significant Impacts and Objectives. Although Design Alternative C meets project objectives, this alternative does not avoid or substantially lessen any of the cumulative unavoidable and significant impacts of the proposed project as described in Chapter 8.0.

9.3.5 Alternative—Mixed-use Commercial

Description. The Mixed-Use Commercial Alternative would result in construction of a mixed use development project composed of the following potential uses: open space, retail, restaurants, and hotels with an FAR consistent with the recently adopted City of Costa Mesa General Plan. There would be a complementary mix of commercial uses including two 400,000 square foot (500-room) hotels, two 50,000 square foot restaurants, and 1.5 million square feet of office and retail uses. The FAR for this development would be 0.30 which is within the allowable ranges set for Commercial Centers in the Costa Mesa General Plan.

Environmental Analysis.

Aesthetics. This alternative would convert the project site from Fairgrounds to commercial uses. Instead of a large public facility, this alternative would create two million square feet of hotel, retail, and office space. This type of development would indelibly alter the visual character of the area. Use of the project site as a fairgrounds provides "the benefits of visual open space or relief from typical urban development patterns" (Costa Mesa General Plan 2000). Commercial development would eliminate any visual benefits provided by the existence of the Fairgrounds.

Therefore, the aesthetic impacts of the Mixed-Use Commercial Alternative are considered more significant than those of the proposed project.

Air Quality. Under the Mixed-Use Commercial Alternative, air pollutant emissions would be greater than the proposed project because of increased traffic.

Removal of the berm and construction of new buildings would require grading and site preparation to accommodate equipment, automobiles, and trucks traveling to and from the project site during construction, as well as particulate resulting from the increased grading area. Construction air quality impacts would be greater than those of the proposed project because of the increased construction area and duration of construction.

Biological Resources. Under this alternative, biological impacts would be similar to the proposed project, which is considered less than significant. The project site has experienced substantial landscape disturbance over an extended period of time and is composed of buildings, paved and unpaved parking area, and ornamental landscaping. Consequently, little or no available wildlife habitat or habitat value is found on the site or within adjacent land uses. The

Mixed-Use Commercial Alternative is considered comparable to the proposed project in terms of potential impacts to biological resources.

Cultural Resources. As with the proposed project, the Mixed-Use Commercial Alternative would not impact any historical or paleontological resources. Although several remnant structures remain from the Santa Ana Army Air Base on the Fairgrounds, none are in their original location or condition. The Mixed-Use Commercial Alternative is considered comparable to the proposed project in terms of cultural resources.

Earth Resources and Topography. Under this alternative, the impact on topography and earth resources would be similar to the proposed project, which is considered less than significant. The original landforms on the proposed project site were previously modified in order to construct the current site use (i.e., OCFEC). The Mixed-Use Commercial calls for substantial grading—including the removal of the 200,000 cubic yards of earthen material contained in the berm surrounding Pacific Amphitheater—but will affect only previously modified landforms. Therefore, the Mixed Use Commercial Alternative is considered comparable to the proposed project regarding topography and earth resources.

Hydrology and Water Quality. Under this alternative, impacts to hydrology and water quality would be potentially greater than the proposed project. Drainage patterns would be completely different and absorption rates reduced because of the decrease in permeable surfaces.

Short-term water quality impacts that would be expected include increased sedimentation due to the disturbance of exposed soils during grading, increased potential for non-visible pollutants to enter the storm drain system from construction materials, and non-stormwater discharges associated with construction activities such as street washing.

The short-term hydrology and water quality impacts for the construction phase would be comparable to the proposed project for the Mixed-Use Commercial Alternative. It is assumed that a new Mixed Use Commercial development on this site would need to abide by established NPDES and DAMP BMP requirements with the intent to minimize or alleviate water quality impacts—as with the proposed project. Therefore, the Mixed Use Commercial Alternative is considered comparable to the proposed project in terms of its impacts to hydrology and water quality.

Land Use. Although OCFEC is exempt from municipal land use policies, the City of Costa Mesa General Plan addresses the proposed project area. The project area is currently designated "Fairgrounds" in the General Plan of Costa Mesa (2002) and has a maximum allowable floor area ratio (FAR) of 0.10, producing a maximum total of 653,397 square feet (sf) of building space on the 150-acre site. The zoning designation of I8R classifies the property as an institutional and recreational district. The Mixed-Use Commercial Alternative is inconsistent with the General Plan and zoning in the City of Costa Mesa. If the site were sold for private development a

General Plan amendment and a zone change would be necessary. Also, this alternative is not compatible with surrounding established land uses. Therefore potential land use and planning impacts of the Mixed-Use Commercial Alternatives is considered greater than that of the proposed project.

Noise. The Mixed-Use Commercial Alternative would create greater noise levels than the proposed project due to higher traffic levels. However, the closure of the Amphitheater and Arena would remove two possible noise impact sources.

With the greater traffic related noise levels generated and the removal of the Pacific Amphitheater and Arena, the Mixed-Use Commercial Alternative would result in roughly the same noise impacts as the proposed project.

Population and Housing. This alternative would generate a substantial number of employees. Anticipated population density for office space within the project would be 66 employees per acre. The hotels could have population densities of up to 131 persons per acre. Other commercial uses would have population densities of 45 employees per acre. Therefore, the Mixed-Use Commercial Alternative would have a greater impact on population, housing, and employment than the proposed project.

Public Services and Utilities. The Mixed Use Commercial Alternative would substantially alter the nature and intensity of on-site activities on the proposed project site. As a result, the potential demand placed on public services and utilities would be more than that anticipated under the proposed project. Therefore, the Mixed-Use Commercial Alternative would have a greater impact on public services and utilities than the proposed project.

Recreation. This alternative would remove the Equestrian Center and existing bike paths from the area and require relocation of the OCFEC. The removal of the EQC and bike paths is a negative impact to recreational opportunities in the area and is also counter to project objectives. The bike paths could possibly be replaced around the perimeter of the project area after construction of this alternative; however, construction of a new EQC would not be feasible or compatible with this alternative. Finally, the OCFEC is a regional, State-mandated facility that would exist somewhere within the 32nd District (Orange County). Therefore, the region would not be left without this recreational facility; however, local recreational opportunities would be reduced. Therefore, the Mixed Use Commercial Alternative is considered to have greater recreational impacts than the proposed project.

Traffic and Circulation. The Mixed-Use Commercial Alternative would generate more daily trips than the proposed project, and access to the development would be significantly different from that of the proposed project. Using industry standard rates, this alternative would be forecasted to generate 45,630 gross average daily trips and approximately 3,900 peak hour trips

(3,348 a.m. trips and 4,470 p.m. trips). Unlike the proposed project's peak hours on weekends, this alternative would be expected to generate traffic during traditional peak hours. Therefore, this alternative would result in greater congestion on the local street system during traditional peak hours. The Mixed-Use Commercial Alternative would have a greater impact than the proposed project on traffic and circulation.

Comparison with Proposed Project's Significant Impacts and Objectives. In addition to being inconsistent with the City of Costa Mesa General Plan and Zoning Code and designation, this alternative would significantly impact population and housing needs, recreation, hydrology and water quality, and public services and utilities. This alternative is rejected because it does not reduce or eliminate the significant and unavoidable impacts identified in Chapter 8.0, and the project is not consistent with the identified project objectives.

9.3.6 Alternative—Low-Density Residential

Description. This alternative would convert the project site from Fairgrounds to residential use. The Low Density Residential Alternative consists of a low density residential use of the property of eight units per acre. At this density, the residential units would be primarily single family homes. Low Density Residential Alternative is composed primarily of single family homes located on 100 acres of the project site, with the remaining 50 acres reserved for a park. The homes would be built at a similar density (eight units per acre) as the bordering neighborhood (College Park).

Environmental Analysis.

Aesthetics. This alternative would convert the project site from Fairgrounds to residential use. Instead of a large public facility, this alternative would create 800 single family homes and a large urban park. Although this use is compatible with the single family neighborhood to the west across Fairview Drive, it would indelibly alter the visual character of the area. Use of the project site as a fairgrounds provides "the benefits of visual open space or relief from typical urban development patterns" (Costa Mesa General Plan 2000). The development of single family homes would alleviate any visual benefits provided by the existence of the Fairgrounds. A large urban park would mitigate some of the negative visual impacts to the community; however, the park would be roughly one-third the size of the Fairgrounds and would not be readily viewable as the Fairgrounds.

Therefore, the aesthetic impacts of the low density residential development can be considered more significant than that of the proposed project.

Air Quality. Under the Low Density Residential Alternative, air pollutant emissions would be greater than those of the proposed project because of increased traffic.

Removal of the berm and construction of new buildings would require grading and site preparation to accommodate equipment, automobiles, and trucks traveling to and from the project site during construction, as well as fine particulates resulting from the increased grading area and requirements. Construction air quality impacts would be greater that the proposed project because of increased construction areas and duration.

Overall, the Low Density Residential Alternative would have a greater impact on air quality during construction but lesser impacts on an ongoing basis.

Biological Resources. Under this alternative, biological impacts would be similar to the proposed project, which is considered less than significant. The project site has experienced substantial landscape disturbance over an extended period of time and is composed of buildings, paved and unpaved parking area, and ornamental landscaping. Consequently, little or no available wildlife habitat or habitat value is found on the site or within adjacent land uses. With the addition of the 50-acre park, there may be some opportunity for wildlife to reestablish a presence but at this time it is speculative. The Low Density Residential Alternative is considered comparable to the proposed project in terms of potential impacts to biological resources.

Cultural Resources. As with the proposed project, the Low Density Residential Alternative would not impact any historical or paleontological resources. Although several structures remain from the Santa Ana Army Air Base on the Fairgrounds, none are in their original location or condition. The Low Density Residential Alternative is considered comparable to the proposed project in terms of cultural resources.

Earth Resources and Topography. Under this alternative, the impact on topography and earth resources would be similar to the proposed project, which is considered less than significant. The original landforms on the proposed project site were previously modified in order to construct the current site use (i.e., the OCFEC). The Low Density Residential Alternative calls for substantial grading—including the removal of the 200,000 cubic yards of earthen material contained in the berm surrounding Pacific Amphitheater—but will affect only previously modified landforms. Therefore, the Low Density Residential Alternative is considered comparable to the proposed project regarding topography and earth resources.

Hydrology and Water Quality. Under this alternative, overall impacts to hydrology and water quality would be compatible to the proposed project. Drainage patterns would be completely different, and absorption rates may be greater because of the increase in permeable surfaces (e.g., the park and yard space).

Hydrology and water quality impacts during construction, however, will be significant. Short-term water quality impacts expected include increased sedimentation due to the disturbance of exposed soils during grading, increased potential for non-visible pollutants to enter the storm drain system from construction materials, and non-stormwater discharges associated with

construction activities such as street washing. The short-term hydrology and water quality impacts for the construction phase would be more severe for the Low Density Housing Alternative.

It is assumed that a new mixed use commercial development on this site would need to abide by established NPDES and DAMP BMP requirements with the intent to minimize or alleviate water quality impacts—as with the proposed project. Therefore, the Low Density Residential Alternative is considered comparable to the proposed project in terms of its impacts to Hydrology and Water Quality resources.

Land Use. Although the OCFEC is exempt from municipal land use policies, the City of Costa Mesa General Plan addresses the proposed project area. The project area is currently designated "Fairgrounds" in the General Plan of Costa Mesa (2002) and has a maximum allowable floor area ratio (FAR) of 0.10, producing a maximum total of 653,397 square feet (sf) of building space on the 150-acre site. The zoning designation I8R classifies the property as an institutional and recreational district. The Low Density Residential Alternative is inconsistent with the City's General Plan and zoning. If the site were sold for private development, a General Plan Amendment and a zone change would be necessary to permit this alternative.

This alternative could be considered compatible with surrounding land uses. The Low Density Residential Alternative is considered comparable to the proposed project in terms of land use and relevant planning.

Noise. The Low Density Residential Alternative would potentially create lower noise levels than the proposed project. Although this alternative would generate an estimated 7,528 daily trips, the closure of the Amphitheater would remove a possibly significant noise impact source. Due to the removal of the Pacific Amphitheater, the Low Density Residential Alternative would generate less noise impact than the proposed project.

Population and Housing. The Low Density Residential Alternative would result in the construction of 800 low density residential units. At an average household size of 2.74 persons per dwelling unit, the projected population density within the development would be up to 21.9 persons per acre, or 2,190 people total. No additional employment opportunities would be created (outside of short-term construction employment). Therefore, although the Low Density Residential Alternative provides housing, it may impact local employment opportunities. This is not in apparent conflict with the goals outlined in the Housing Element of the Costa Mesa General Plan, which calls for the City to provide for residential development.

Public Services and Utilities. The Low Density Residential Alternative would substantially alter the nature and intensity of on-site activities on the proposed project site. As a result, the potential demand placed on public services (e.g., public schools) and utilities would more than

what is anticipated under the proposed project. Therefore, the Low Density Residential Alternative would have greater impact on public services and utilities than the proposed project.

Recreation. This alternative would remove the Equestrian Center and possibly local bike paths from the area and would also require relocation of the OCFEC. The removal of the EQC and bike paths could be perceived as a negative impacts to recreational opportunities in the area. Construction of a new EQC would not be feasible or compatible with this alternative.

A centrally located ±50 acre park would compensate for a portion of the negative impacts associated with the loss of the Fairgrounds and its facilities. It should be assumed that this new park would be used almost exclusively by the new surrounding residents in contrast to the regionally oriented OCFEC. It is noted that this area is presently rich in recreational opportunities, with TeWinkle Park and the nearby schools (e.g., Davis Intermediate, Costa Mesa High School, and Orange Coast College) serving the area. Finally, the OCFEC is a regional, State-mandated facility that would exist somewhere within the 32nd District (Orange County). Therefore, the region would not be left without this regional recreational facility. Hence, the Low Density Residential Alternative is considered comparable to the proposed project regarding recreational resources.

Traffic and Circulation. The Low Density Residential Alternative would generate more daily trips than the proposed project, and access to the residential development would be significantly different from that of the proposed project. Using industry standard rates, this alternative would be forecasted to generate 7,528 gross average daily trips and approximately 688 peak hour trips (584 a.m. peak hour trips and 792 p.m. peak hour trips). Unlike the proposed project's peak hours on weekends, this alternative would be expected to generate traffic during traditional peak hours. Therefore, this alternative would result in greater congestion on the local street system during traditional peak hours. The Low Density Residential Alternative would have a greater impact than the proposed project on traffic and circulation.

Comparison with Proposed Project's Significant Impacts and Objectives. In addition to being inconsistent with the City of Costa Mesa's zoning and General Plan designation, this alternative may significantly impact traffic and circulation, and public services and utilities. This alternative is rejected because it does not reduce or eliminate the identified significant and unavoidable impacts identified in Chapter 8.0, and the project is not consistent with the identified project objectives.

9.3.7 Alternative Project Site(s)

Pursuant to CEQA Guidelines Section 15126.6(f)(2), the purpose of considering alternative locations for the proposed project is to determine whether any of the significant environmental effects would be avoided or substantially lessened by locating the project on an alternative site. If the Lead Agency concludes that there are no feasible alternative sites for the project, the EIR shall include the reasons for that determination.

The existing vacant parcels within the general project area (i.e., the County of Orange) were considered in terms of feasibility for a Fairgrounds such as the proposed project area. The OCFEC would require a minimum of ±150 acres to relocate, an environmentally unencumbered site, and a location near a major transportation corridor with two major arterial connecting roadways to access the site.

Very few sites of the size and configuration of the proposed project site exist elsewhere in Orange County. One of the few examples that can be found is the former U.S. Marine Corps Air Station (MCAS) at El Toro. Figure 9.4 is an Alternative Project Site Location Map. Two additional vacant parcels were identified—MCAS Tustin and Banning Ranch—but were excluded from further evaluation because they are committed to other uses.

U.S. Marine Corps Air Station (MCAS) at El Toro. The property is currently in unincorporated Orange County but is owned by the U.S. Department of Defense (Navy) (DOD). Following the passage of Measure W in March 2002, most of the land was rezoned as open space reserve (OSR 5), and the Orange County General Plan was amended to reflect the change.

The land is within the City of Irvine's sphere of influence, and as such the City has initiated annexation proceedings. Final adoption by the Orange County Local Agency Formation Commission (LAFCO) is projected for December 2003. If successful, Irvine will ultimately control zoning and land uses in the area. The City of Irvine is developing a reuse plan that would allow for a variety of uses including residential areas, golf courses, cemeteries, parkland, and some commercial uses. While it is possible that a 300-acre area may be offered for development of an enlarged Orange County Fairgrounds, that possibility is speculative at this time.

As part of the annexation and General Plan Amendment pre-zoning application package, the City of Irvine has included "Exposition" and "Commercial Recreation Uses" as permitted uses in the northern portion of the El Toro site.

The DOD will not complete any sale of any portion of the El Toro site until the entire annexation/General Plan Amendment/pre-zoning application package is complete. At that time, the DOD will sell larger portions of the El Toro site to interested parties, presumably for future development. Once these transactions are completed, additional parties, such as the 32nd DAA could negotiate directly with new landowners in order to use the property. The outcomes of such negotiations and transactions are difficult to predict and even more difficult to complete.

There are also environmental concerns related to the cleanup of contaminated areas that must be completed prior to sale by the DOD. At this time, there is no firm agreement on how the land will be cleaned, to what level it will be cleaned, or who will pay for the cleanup. Cleanup of contaminated areas would take several years to complete and could preclude sale and development of the site until finished.

It should be noted that the proposed project assumes a 10 to 12 year phasing and implementation schedule. It is possible that the proposed project may be completed prior to the time that any portion of the El Toro site deemed suitable for the 32nd DAA may become available.

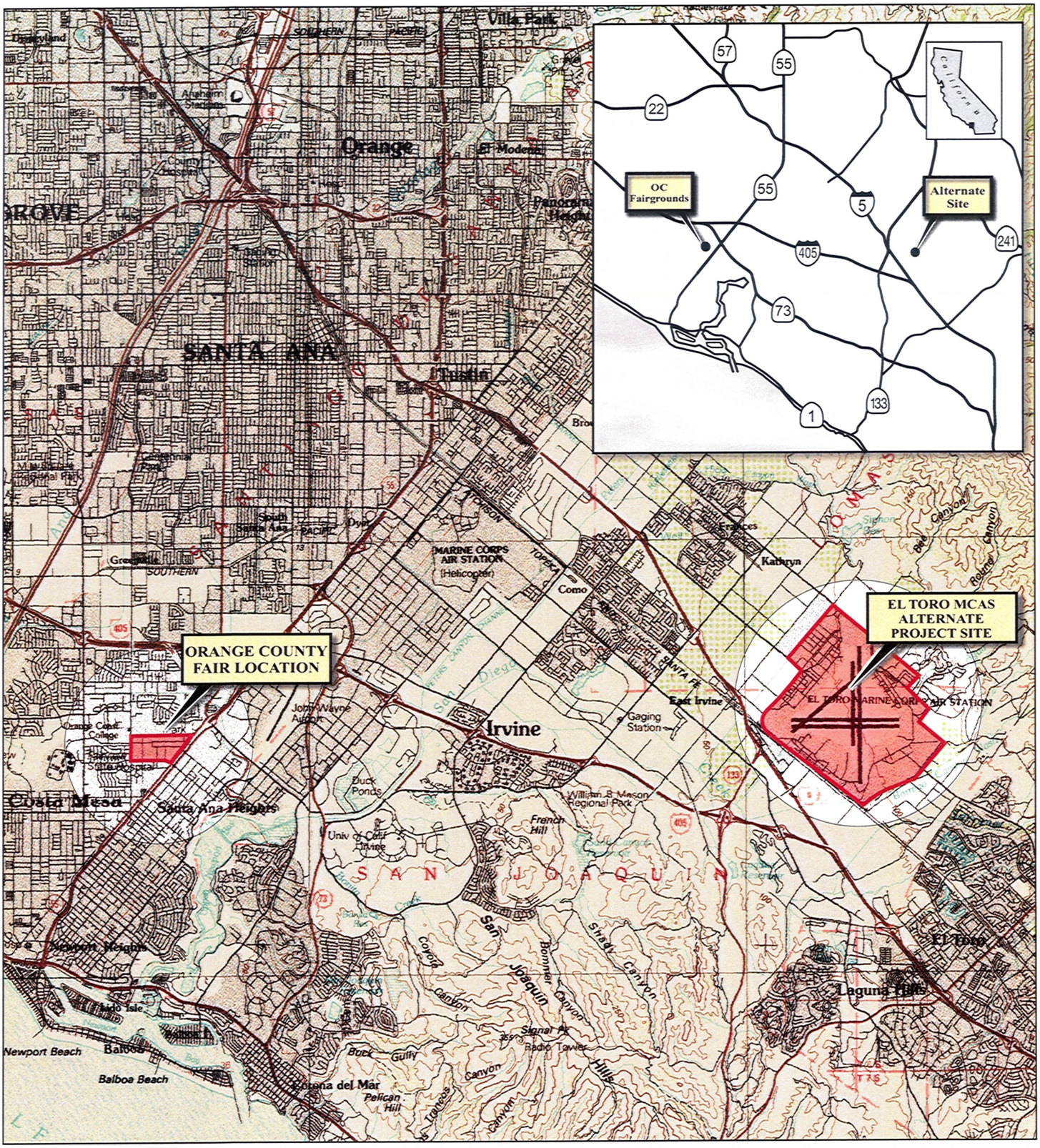

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FIGURE 9.4

Orange County Fair and Exposition Center

Alternative Project Site Location Map

0 1/2 1
MILES

SOURCE: USGS 30x60" - SANTA ANA, CALIF.

I:\Ccz030\G\ElToro Alternate.cdr (12/20/02)

In summary, the OCFEC has moved several times in its 100+ year history. It is not inconceivable for the Fairgrounds to be relocated in the future, perhaps even eventually onto the El Toro site. However, due to the entitlement complexities, ownership uncertainties, cost of relocation, cost of infrastructure, and relative short phasing/implementation schedule of the proposed project, this off-site alternative is not considered feasible at this time. In addition, the project's significant environmental impacts would not be avoided by use of the site at El Toro MCAS, and there would be additional air quality, traffic, and stormwater runoff impacts beyond what is expected from development of the Costa Mesa site. Therefore, the El Toro MCAS Alternative is not addressed further.

9.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Based upon the preceding alternative analysis, the No Project/No Build Alternative is found to be the environmentally superior alternative. If the project site were to remain "as is," there would be no potential short-term air quality (NO_X and PM_{10}) impacts associated with removal of the Amphitheater berm. The No Project/No Build Alternative would not, however, reduce the long-term air quality impacts associated with operating the amphitheater concurrent to an interim event. It would also result in greater long-term water quality impacts by forgoing improvements to stormwater and drainage systems.

If the environmentally superior alternative is the No Project Alternative, the CEQA Guidelines require that the "EIR also identify an environmentally superior alternative among the other alternatives" (CEQA Guidelines Section 15126.6(e)(2)). There is, however, no environmentally superior alternative to the proposed project among the other alternatives. The three project design alternatives have the same short-term (NO_X and PM_{10}) and long-term air quality impacts (CO, NO_X and ROC) as the proposed project. Likewise, both the Mixed Use Commercial Alternative and the Low Density Residential Alternative would result in significant air quality impacts resulting from removal of the berm and construction of new buildings in addition to a variety of other significant impacts.

Table 9.A provides a comparison of the impacts of the alternatives, the proposed project and a comparison of identified significant impacts—project specific and cumulative.

Table 9.A: Alternative Comparison Matrix

Issue Topic	Proposed Project	No Project/ No Build	Design Alternative A	Design Alternative B	Design Alterative C	Mixed Use Commercial	Low Density Residential
Characteristics	Master Plan involves: • 35K sq. ft. Exhibit Bldg, new Kitchen/Café, and misc. other bldg. • Storm Drain Improvements • Removal of amphitheater berm • New Parking Area / Reduced EQC	No change to the project site.	Buildings of similar height and mass to the proposed project Storm Drain Improvements Removal of Amphitheater Berm New Parking Area / Reduced EQC	Reduced festival fields area Storm Drain Improvements Removal of Amphitheater Berm New Parking / Eventual Phasing out of EQC	Buildings of similar heigh and mass to the proposed project Storm Drain Improvements Removal of Amphitheater Berm New Parking / Reduced EQC	Two 400,000 square feet hotels Two 50,000 square foot restaurants 1.5 million square feet of office and retail uses	100 acre Single family home development 8 density units per acre 50 acre park
Meets Project Objectives	Meets all project objectives	Would not satisfy project objectives	Meets all project objectives	Does not meet objective 1	Meets Project Objectives	Would not satisfy project objectives	Would not satisfy project objectives
Aesthetics	Visual benefits to views from public rights-of-way as a result of landscaping Less than significant lighting impacts	No change in aesthetic condition of the project site or views from off-site vantage points.	Aesthetics impacts comparable to the proposed project	Aesthetic impact comparable to the proposed project	Aesthetics impacts comparable to the proposed project	Greater aesthetic impact than the proposed project	Greater aesthetic impact than the proposed project
Air Quality	Construction impacts for NO_X and PM_{10} CO, ROC and NO_X threshold exceeded after project completion	No construction related air quality impacts Long-term Air Quality Impacts remain the same assuming eventual reopening of the Amphitheater	Long-term and short-term air quality impacts are comparable to the proposed project. Significant short-term and long-term air quality impacts are expected for Design Alternative A	Long-term and short-term air quality impacts are comparable to the proposed project. Significant short-term and long-term air quality impacts are expected for Design Alternative B	Long-term and short-term air quality impacts are comparable to the proposed project. Significant short-term and long-term air quality impacts are expected for Design Alternative C	Increased traffic and additional grading activities during construction would contribute to greater long and short-term air quality impacts.	Increase traffic and additional grading activities during construction would contribute to greater short and long-term air quality impacts.

Table 9.A: Alternative Comparison Matrix

Issue Topic	Proposed Project	No Project/ No Build	Design Alternative A	Design Alternative B	Design Alterative C	Mixed Use Commercial	Low Density Residential
Biological Resources	No significant impacts to listed or candidate plant or animal species or adopted environmental plans, goals or polices.	No change to existing conditions	No significant impacts	No significant impacts	No significant impacts	No significant impacts	No significant impacts
Cultural Resources	No significant impacts to cultural resources with implementation of standard conditions	No change to existing conditions	No significant impacts with implementation of standard conditions	No significant impacts with implementation of standard conditions	No significant impacts with implementation of standard conditions	No significant impacts with implementation of standard conditions	No significant impacts with implementation of standard conditions
Earth Resources and Topography	No significant impacts. No unique geological or physical landform features on site	No grading required	No significant impacts	No significant impacts	No significant impacts	No significant impacts	No significant impacts
Hydrology and Water Quality	No significant impacts Provides opportunity for improvements to surface storm drain system and water quality plan	No change to existing conditions Greater water quality impacts without improvements to storm water drainage system	Impacts comparable to the proposed project	Greater impacts to water quality due to increases in impervious surfaces.	Impacts comparable to the proposed project	Greater impacts to water quality due to reduced absorption rates and changes in drainage patterns	Impacts comparable to the proposed project
Land Use	No significant land use impacts/Project does not change existing land use Planned land use consistent with City GP and Zoning Code	No change in condition and use of site.	No significant impacts	No significant impacts	No significant impacts	This alternative is inconsistent with the City of Costs Mesa's General Plan and Zoning Code. The alternative is also inconsistent with surrounding land uses.	This alternative is inconsistent with the City of Costs Mesa's General Plan and Zoning Code, however, it appears to be consistent with surrounding land uses. Impacts are considered comparable with the proposed project.

Table 9.A: Alternative Comparison Matrix

Issue Topic	Proposed Project	No Project/ No Build	Design Alternative A	Design Alternative B	Design Alterative C	Mixed Use Commercial	Low Density Residential
Noise	No significant impacts with the implementation of standard conditions and mitigation measures	No change in existing conditions.	Impacts comparable to the proposed project	Greater noise impacts because of location of arena	Impacts comparable to the proposed project	Impacts comparable to the proposed project	Impacts comparable to the proposed project
Population and Housing	No significant impacts	No change in existing conditions	No significant impacts	No significant impacts	No significant impacts	Greater impacts to housing and population; increase in employment opportunities and hotel population density	May have a greater impact on population and housing but the impact is not in apparent conflict with the Housing Element of the City of Costa Mesa.
Public Services and Utilities	No significant impacts	No effects to existing conditions.	No significant impacts	No significant impacts	No significant impacts	Greater impact to public services and utilities	Greater impact to public services and utilities.
Recreation	No significant impacts	No change to existing condition	No significant impacts	Greater recreation impacts resulting from removal of EQC	No significant impacts	Local recreation impacts from removal of Fairgrounds, EQC and possible removal of bike paths are significant.	The 50 acre Park would compensate for loss of Fairgrounds in Costa Mesa. Regionally their would be no significant recreation impact.
Traffic and Circulation	No significant impacts to traffic or circulation conditions.	No change to existing condition	No significant impacts	No significant impacts	No significant impacts	Greater traffic impacts resulting from higher trip generation during peak and non peak hours.	Greater traffic impacts resulting from high trip generation during peak and non peak hours.

Table 9.A: Alternative Comparison Matrix

Issue Topic	Proposed Project	No Project/ No Build	Design Alternative A	Design Alternative B	Design Alterative C	Mixed Use Commercial	Low Density Residential
Summary Comparison of Impacts Relative to Proposed Project	Not Applicable	Potential for greater impacts to water quality. Reduced short-term impacts to air quality. Does not meet project objectives.	Does not reduce or eliminate air quality impacts. Meets project objectives.	Greater impacts to water quality, noise and recreation. Does not meet project objective 1.	Does not reduce or eliminate air quality impacts. Meets project objectives.	Alternative does not reduce or eliminate significant and unavoidable impacts of the proposed project or meet project objectives	Alternative does not reduce or eliminate significant and unavoidable impacts of the proposed project or meet project objectives

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