

**FINAL ENVIRONMENTAL IMPACT REPORT NO. 573
FOR THE CIVILIAN REUSE OF MCAS EL TORO
AND THE
AIRPORT SYSTEM MASTER PLAN FOR
JOHN WAYNE AIRPORT AND
PROPOSED ORANGE COUNTY INTERNATIONAL AIRPORT**

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Prepared for:

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TABLE OF CONTENTS

FINAL ENVIRONMENTAL IMPACT REPORT NO. 573 FOR THE CIVILIAN REUSE OF MCAS EL TORO AND THE AIRPORT SYSTEM MASTER PLAN FOR THE JOHN WAYNE AIRPORT AND PROPOSED ORANGE COUNTY INTERNATIONAL AIRPORT

VOLUME 1

LIST OF ACRONYMS	LOA-1
------------------------	-------

1.0	SUMMARY AND INTRODUCTION	1-1
1.1	General Introduction.....	1-1
1.1.1	Proposed Project.....	1-1
1.2	History and Background.....	1-2
1.2.1	MCAS El Toro	1-2
1.2.2	John Wayne Airport	1-3
1.3	Relationship to EIR No. 563	1-3
1.4	Areas of Controversy.....	1-5
1.5	Issues to be Resolved	1-6
1.6	Environmental Setting (“Existing Conditions”).....	1-6
1.6.1	No Project Alternative.....	1-7
1.7	Organization of the EIR	1-7
1.8	Referenced Documents and Availability of Studies and Reports	1-8
1.9	Summary of Significant Effects of the Proposed Project and Mitigation Measures and Alternatives that will Reduce or Avoid that Effect.....	1-10
1.9.1	Land Use.....	1-10
1.9.2	General Plan Consistency.....	1-11
1.9.3	Transportation and Circulation.....	1-12
1.9.4	Noise.....	1-13
1.9.5	Air Quality.....	1-15
1.9.6	Soils, Geology and Seismicity	1-17
1.9.7	Hydrology and Water Quality	1-18
1.9.8	Public Services and Utilities.....	1-18
1.9.9	Natural Resources and Energy	1-19
1.9.10	Recreation.....	1-20
1.9.11	Hazardous Wastes and Hazardous Materials Use	1-21
1.9.12	Socioeconomics.....	1-22
1.9.13	Risk of Upset.....	1-23
1.9.14	Summary of Cumulative Effects of The Proposed Project And Mitigation Measures That Would Lessen or Avoid That Effect	1-24
1.9.15	Level of Significance After Mitigation	1-26

2.0	PROJECT HISTORY AND SUMMARY OF THE PROPOSED PROJECT.....	2-1
2.1	Project Background.....	2-1
2.1.1	History of the El Toro Military Base Closure Process.....	2-1
2.1.2	MCAS EL Toro Community Reuse Plan (CRP) And Final EIR 563 .	2-2
2.1.3	Litigation Regarding Final EIR 563 and the Courts' Judgments	2-4
2.1.4	Transition From CRP to ASMP and Open Space Plan	2-5
2.2	Project Purpose and Need	2-6
2.2.1	Aviation Demand	2-7
2.2.2	Other Purpose and Need Factors	2-9
2.3	Project Objectives.....	2-11
2.3.1	General Project Objectives	2-11
2.3.2	Aviation Related Planning Objectives	2-12
2.3.3	Ability of The Proposed Project And Alternatives to Satisfy The Project Objectives.....	2-13
2.4	Public Coordination and Participation	2-14
2.4.1	Notice of Preparation.....	2-14
2.4.2	Public Scoping Meeting	2-15
2.4.3	Distribution of the Draft EIR.....	2-15
2.4.4	Distribution of Draft Supplemental Analysis.....	2-15
2.5	Relationship to Federal Environmental Processes.....	2-16
3.0	DESCRIPTION OF THE PROPOSED PROJECT	3-1
3.1	Introduction and Project Summary	3-1
3.1.1	Airport System Master Plan	3-3
3.1.2	Base Transition Plan.....	3-5
3.2	Project Location.....	3-5
3.3	Project Overview	3-5
3.3.1	OCX Proposed Aviation Facility Improvements	3-6
3.3.2	Nonaviation Revenue Support Uses.....	3-16
3.3.3	Base Transition Plan.....	3-26
3.3.4	Interim Aviation Uses	3-27
3.3.5	JWA Facility Improvements for the Proposed Project.....	3-27
3.3.6	Proposed Aviation Activity for the Two-Airport System	3-33
3.4	Summary of CRP Project Addressed in EIR No. 563	3-36
3.4.1	Comparison of Proposed Project with the Community Reuse Plan..	3-36
3.5	Phasing.....	3-41
3.5.1	Phase 1 (2000-2005).....	3-59
3.5.2	Phase 2 (2006-2010).....	3-64
3.5.3	Phase 3 (2011-2015).....	3-66
3.5.4	Phase 4 (2016-2020).....	3-66
3.6	Summary of Proposed Actions	3-67
3.6.1	County Implementing Actions and Discretionary Approvals	3-67
3.7	Intended Uses of the EIR	3-68
3.7.1	Approvals For Which The EIR Will Be Used.....	3-69

4.0	ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES	4-1
	Introduction/Organization and Content	4.1-1
4.1	Land Use.....	4.1-1
4.1.1	Summary of Conclusions in Final EIR No. 563.....	4.1-1
4.1.2	Final EIR No. 563 Supplemental Analysis	4.1-2
4.1.3	Environmental Setting/Existing Conditions.....	4.1-2
4.1.4	Methodology	4.1-7
4.1.5	Thresholds of Significance	4.1-7
4.1.6	Project Impacts	4.1-8
4.1.7	Mitigation Measures.....	4.1-28
4.1.8	Level of Significance After Mitigation	4.1-30
4.1.9	No Project/No Activity Comparison	4.1-31
4.2	General Plan Consistency.....	4.2-1
4.2.1	Summary of Conclusions in EIR No. 563	4.2-1
4.2.2	Final EIR No. 563 Supplemental Analysis	4.2-2
4.2.3	Environmental Setting/Existing Conditions.....	4.2-2
4.2.4	Methodology	4.2-11
4.2.5	Thresholds of Significance	4.2-11
4.2.6	Project Impacts	4.2-11
4.2.7	Mitigation Measures.....	4.2-18
4.2.8	Level of Significance After Mitigation	4.2-20
4.2.9	No Project/No Activity Comparison	4.2-20
4.3	Transportation And Circulation	4.3-1
4.3.1	Summary of Conclusions in Final EIR No. 563.....	4.3-1
4.3.2	Final EIR No. 563 Supplemental Analysis	4.3-2
4.3.3	Environmental Setting/Existing Conditions.....	4.3-3
4.3.4	Methodology	4.3-9
4.3.5	Thresholds of Significance	4.3-11
4.3.6	Project Impacts	4.3-17
4.3.7	Mitigation Measures.....	4.3-49
4.3.8	Level of Significance After Mitigation	4.3-62
4.3.9	No Project/No Activity Comparison	4.3-63
4.4	Noise.....	4.4-1
4.4.1	Summary of Conclusions in Final EIR No. 563.....	4.4-1
4.4.2	Final EIR No. 563 Supplemental Analysis	4.4-2
4.4.3	Environmental Setting/Existing Conditions.....	4.4-2
4.4.4	Methodology	4.4-43
4.4.5	Regulatory Setting.....	4.4-44
4.4.6	Project Impacts	4.4-54
4.4.7	Potential Mitigation Approaches.....	4.4-137
4.4.8	Mitigation Measures.....	4.4-174

4.4.9	Level of Significance After Mitigation	4.4-179
4.4.10	No Project/No Activity Comparison	4.4-180
4.5	Air Quality	4.5-1
4.5.1	Summary of Conclusions in EIR No. 563	4.5-1
4.5.2	Summary of Conclusions In Final EIR No. 563 Supplemental Analysis	4.5-2
4.5.3	Summary of Conclusions In Draft Supplemental Analysis to Draft EIR No. 573	4.5-4
4.5.4	General Approach and Methodology	4.5-12
4.5.5	Existing Conditions	4.5-13
4.5.6	Existing and Future Background Concentrations.....	4.5-23
4.5.7	Methodology for Emissions Inventories	4.5-25
4.5.8	Methodology for Air Dispersion Modeling.....	4.5-30
4.5.9	Federal and State Regulatory Framework	4.5-32
4.5.10	Methods of Determining Significance	4.5-36
4.5.11	Project Impacts	4.5-38
4.5.12	Mitigation Measures.....	4.5-107
4.5.13	Environmental Impacts of Air Quality Mitigation Measures.....	4.5-142
4.5.14	Level of Significance After Mitigation	4.5-142
4.5.15	Consistency with AQMP.....	4.5-147
4.5.16	Health Risk Assessment of Toxic Air Contaminants.....	4.5-150

VOLUME 2A

4.6	Landform And Topography	4.6-1
4.6.1	Summary of Conclusions in Final EIR No. 563.....	4.6-1
4.6.2	Final EIR No. 563 Supplemental Analysis	4.6-2
4.6.3	Environmental Setting/Existing Conditions.....	4.6-2
4.6.4	Methodology	4.6-3
4.6.5	Thresholds of Significance	4.6-3
4.6.6	Project Impacts	4.6-4
4.6.7	Mitigation Measures.....	4.6-8
4.6.8	Level of Significance After Mitigation	4.6-8
4.6.9	No Project/No Activity Comparison	4.6-9
4.7	Soils, Geology And Seismicity	4.7-1
4.7.1	Summary of Conclusions in Final EIR No. 563.....	4.7-1
4.7.2	Final EIR No. 563 Supplemental Analysis	4.7-2
4.7.3	Environmental Setting/Existing Conditions.....	4.7-2
4.7.4	Methodology	4.7-12
4.7.5	Thresholds of Significance	4.7-12
4.7.6	Project Impacts.....	4.7-12
4.7.7	Mitigation Measures.....	4.7-16

4.7.8	Level of Significance After Mitigation	4.7-18
4.7.9	No Project/No Activity Comparison	4.7-18
4.8	Hydrology and Water Quality	4.8-1
4.8.1	Summary of Conclusions in Final EIR No. 563.....	4.8-1
4.8.2	Final EIR No. 563 Supplemental Analysis	4.8-2
4.8.3	Environmental Setting/Existing Conditions.....	4.8-2
4.8.4	Methodology Related to Hydrology and Water Quality	4.8-15
4.8.5	Thresholds of Significance	4.8-16
4.8.6	Project Impacts	4.8-16
4.8.7	Mitigation Measures.....	4.8-27
4.8.8	Level of Significance After Mitigation	4.8-34
4.8.9	No Project/No Activity Comparison	4.8-34
4.9	Biological Resources.....	4.9-1
4.9.1	Summary of Conclusions in EIR No. 563	4.9-1
4.9.2	Final EIR No. 563 Supplemental Analysis	4.9-2
4.9.3	Environmental Setting/Existing Conditions.....	4.9-2
4.9.4	Methodology	4.9-23
4.9.5	Thresholds of Significance	4.9-24
4.9.6	Project Impacts	4.9-27
4.9.7	Mitigation Measures.....	4.9-52
4.9.8	Level of Significance After Mitigation	4.9-56
4.9.9	No Project/No Activity Comparison.....	4.9-57
4.10	Public Services And Utilities	4.10-1
4.10.1	Summary of Conclusions of Final EIR No. 563	4.10-1
4.10.2	Final EIR No. 563 Supplemental Analysis	4.10-4
4.10.3	Environmental Setting/Existing Conditions.....	4.10-4
4.10.4	Methodology	4.10-18
4.10.5	Thresholds of Significance.....	4.10-18
4.10.6	Proposed Transit Serving Improvements – MCAS El Toro.....	4.10-20
4.10.7	Project Impacts	4.10-20
4.10.8	Phasing and Base Transition Plan	4.10-48
4.10.9	Mitigation Measures.....	4.10-48
4.10.10	Level of Significance After Mitigation	4.10-53
4.10.11	No Project/No Activity Comparison	4.10-54
4.11	Natural Resources and Energy	4.11-1
4.11.1	Summary of Conclusions in EIR No. 563	4.11-1
4.11.2	Effects Determined to be Mitigated to Below a Level of Significance	4.11-2
4.11.3	Final EIR No. 563 Supplemental Analysis	4.11-2
4.11.4	Environmental Setting/Existing Conditions.....	4.11-3
4.11.5	Methodology	4.11-9

4.11.6	Thresholds of Significance	4.11-9
4.11.7	Proposed Project Natural Resources and Energy	4.11-11
4.11.8	Project Impacts	4.11-11
4.11.9	Mitigation Measures	4.11-25
4.11.10	Level of Significance After Mitigation	4.11-30
4.11.11	No Project/No Activity Comparison	4.11-30
4.12	Aesthetics, Light and Glare	4.12-1
4.12.1	Summary of Conclusions in FEIR No. 563	4.12-1
4.12.2	Final EIR No. 563 Supplemental Analysis	4.12-1
4.12.3	Environmental Setting/Existing Conditions	4.12-2
4.12.4	Methodology	4.12-5
4.12.5	Thresholds of Significance	4.12-6
4.12.6	Project Impacts	4.12-7
4.12.7	Precautionary Mitigation Measures	4.12-13
4.12.8	Level of Significance After Mitigation	4.12-14
4.12.9	No Project/No Activity Comparison	4.12-14
4.13	Cultural Resources	4.13-1
4.13.1	Summary of Conclusions in Final EIR No. 563	4.13-1
4.13.2	Final EIR No. 563 Supplemental Analysis	4.13-1
4.13.3	Environmental Setting/Existing Conditions	4.13-2
4.13.4	Methodology	4.13-3
4.13.5	Thresholds of Significance	4.13-4
4.13.6	Project Impacts	4.13-5
4.13.7	Mitigation Measures	4.13-7
4.13.8	Level of Significance After Mitigation	4.13-9
4.13.9	No Project/No Activity Comparison	4.13-9
4.14	Recreation	4.14-1
4.14.1	Summary of Conclusions In Final EIR No. 563	4.14-1
4.14.2	Final EIR No. 563 Supplemental Analysis	4.14-1
4.14.3	Environmental Setting/Existing Conditions	4.14-1
4.14.4	Methodology	4.14-8
4.14.5	Thresholds of Significance	4.14-9
4.14.6	Proposed Recreational Amenities – MCAS El Toro	4.14-9
4.14.7	Project Impacts	4.14-12
4.14.8	Mitigation Measures	4.14-19
4.14.9	Level of Significance After Mitigation	4.14-21
4.14.10	No Project/No Activity Comparison	4.14-21

4.15	Public Safety.....	4.15-1
4.15.1	Summary of Conclusions in Final EIR No. 563.....	4.15-1
4.15.2	Final EIR No. 563 Supplemental Analysis	4.15-2
4.15.3	Environmental Setting/Existing Conditions.....	4.15-2
4.15.4	Methodology	4.15-11
4.15.5	Thresholds of Significance.....	4.15-12
4.15.6	Proposed Project Features Relevant to Aviation Safety Issues....	4.15-15
4.15.7	Project Impacts – Air Safety	4.15-16
4.15.8	Mitigation Measures.....	4.15-29
4.15.9	Level of Significance After Mitigation	4.15-31
4.15.10	No Project/No Activity Comparison.....	4.15-31
4.16	Hazardous Wastes and Hazardous Materials Use	4.16-1
4.16.1	Summary of Conclusions in Final EIR No. 563.....	4.16-1
4.16.2	Final EIR No. 563 Supplemental Analysis	4.16-3
4.16.3	Environmental Setting/Existing Conditions.....	4.16-3
4.16.4	Methodology	4.16-22
4.16.5	Threshold of Significance	4.16-23
4.16.6	Project Impacts.....	4.16-24
4.16.7	Mitigation Measures.....	4.16-52
4.16.8	Level of Significance After Mitigation	4.16-57
4.16.9	No Project/No Activity Comparison.....	4.16-57
4.17	Socioeconomics.....	4.17-1
4.17.1	Summary of Conclusions In Final EIR No. 563	4.17-1
4.17.2	Final EIR No. 563 Supplemental Analysis	4.17-2
4.17.3	Environmental Setting/Existing Conditions.....	4.17-2
4.17.4	Methodology	4.17-10
4.17.5	Thresholds of Significance.....	4.17-10
4.17.6	Project Impacts.....	4.17-11
4.17.7	Mitigation Measures.....	4.17-20
4.17.8	Level of Significance After Mitigation	4.17-21
4.17.9	No Project/No Activity Comparison	4.17-22
4.18	Risk of Upset.....	4.18-1
4.18.1	Summary of Conclusions in Final EIR No. 563.....	4.18-1
4.18.2	Final EIR No. 563 Supplemental Analysis	4.18-1
4.18.3	Environmental Setting/Existing Conditions.....	4.18-2
4.18.4	Methodology	4.18-3
4.18.5	Thresholds of Significance.....	4.18-12
4.18.6	Proposed Project Land Uses.....	4.18-12
4.18.7	Project Impacts	4.18-14
4.18.8	Mitigation Measures.....	4.18-30
4.18.9	Level of Significance After Mitigation	4.18-34
4.18.10	No Project/No Activity Comparison.....	4.18-34

VOLUME 2B

5.0	CUMULATIVE IMPACTS	5-1
5.1	CEQA Definition Of Cumulative Impacts	5-1
5.1.1	Methodology	5-1
5.1.2	Geographic Area.....	5-5
5.1.3	Criteria for Selection	5-6
5.2	Summary Of Conclusions In Final EIR No. 563.....	5-6
5.2.1	Land Use.....	5-7
5.2.2	Transportation and Circulation.....	5-7
5.2.3	Noise.....	5-7
5.2.4	Hydrology and Water Quality	5-8
5.2.5	Public Service and Utilities	5-8
5.2.6	Natural Resources and Energy	5-9
5.2.7	Cultural Resources	5-9
5.2.8	Socioeconomics.....	5-9
5.3	Reasonably Foreseeable Probable Future Projects.....	5-10
5.3.1	County of Orange Jurisdiction Land Use Projects	5-13
5.3.2	City Jurisdictions Land Use Projects.....	5-15
5.3.3	Transportation Land Use Projects	5-42
5.3.4	Other Land Use Projects.....	5-45
5.3.5	Non-Planned Land Use Projects.....	5-48
5.4	Cumulative Impacts By Resource Area.....	5-49
5.4.1	Potential Cumulative Impacts Related to Land Use.....	5-49
5.4.2	Potential Cumulative Impacts Related to General Plan Consistency.....	5-54
5.4.3	Transportation and Circulation.....	5-56
5.4.4	Potential Cumulative Impacts Related to Noise.....	5-62
5.4.5	Potential Cumulative Impacts	5-64
5.4.6	Topography	5-66
5.4.7	Soils, Geology, and Seismicity	5-67
5.4.8	Potential Cumulative Impacts Related to Hydrology and Water Quality	5-67
5.4.9	Potential Cumulative Impact Related to Biological Resources.....	5-68
5.4.10	Potential Cumulative Impacts Related to Public Services and Utilities	5-72
5.4.11	Natural Resources and Energy	5-75
5.4.12	Potential Cumulative Impacts Related to Aesthetics, Light and Glare	5-78
5.4.13	Potential Cumulative Impacts Related to Cultural Resources.....	5-79
5.4.14	Potential Cumulative Impacts Related to Recreation.....	5-80
5.4.15	Potential Cumulative Impacts Related to Public Health and Safety .	5-81
5.4.16	Potential Cumulative Impacts Related to Hazardous Materials and Hazardous Waste	5-82

	5.4.17	Potential Cumulative impacts Related to Socioeconomics	5-83
	5.4.18	Potential Cumulative Impacts Related to The Risk of Upset.....	5-85
6.0		LONG-TERM IMPLICATIONS OF THE PROPOSED PROJECT	6-1
	6.1	Significant Irreversible Environmental Changes That Would be Caused by the Proposed Project Should it be Implemented	6-1
	6.2	Growth Inducing Impacts of the Proposed Project.....	6-2
	6.3	CEQA Definition of Growth Inducing Impacts	6-2
	6.4	Potential Growth Inducing Impacts	6-3
	6.4.1	Potential Growth Inducing Impacts of The Proposed Project.....	6-3
7.0		SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS	7-1
	7.1	Overview	7-1
	7.2	Significant Unavoidable Adverse Impacts Under The Proposed Project	7-1
	7.3	Significant Unavoidable Adverse Impacts If Mitigation By Other Entities is Not Implemented	7-2
8.0		ALTERNATIVES.....	8-1
	8.1	Introduction	8-1
	8.1.1	Final EIR No. 563 Alternatives.....	8-1
	8.1.2	ASMP Alternatives.....	8-2
	8.1.3	Introduction to EIR Alternatives	8-3
	8.2	No Project/No Activity Alternative (Alternative E): JWA – Status Quo Aviation Roles; No Aviation Reuse at Former MCAS El Toro	8-9
	8.2.1	Aviation Uses	8-9
	8.2.2	Nonaviation Revenue Support Uses.....	8-9
	8.2.3	Attainment of Project Objectives	8-9
	8.2.4	Environmental Impacts of the No Project/No Activity Alternative	8-10
	8.2.5	Conclusions	8-28
	8.3	ETRPA Nonaviation Plan Alternative.....	8-30
	8.3.1	Aviation Uses	8-30
	8.3.2	Nonaviation Revenue Support Uses.....	8-30
	8.3.3	Phasing: Build Out Over 20 Years	8-31
	8.3.4	Attainment of Project Objectives	8-32
	8.3.5	Environmental Impacts of the ETRPA Nonaviation Plan Alternative	8-32
	8.3.6	Feasibility	8-85
	8.3.7	Conclusions	8-87
	8.4	Alternative A: JWA – Status Quo Aviation Roles; OCX – Full Domestic	8-88
	8.4.1	Aviation Uses	8-88
	8.4.2	Nonaviation Revenue Support Uses.....	8-88
	8.4.3	Attainment of Project Objectives	8-89
	8.4.4	Environmental Impacts of Alternative A	8-89

8.4.5	Feasibility	8-110
8.4.6	Conclusions	8-110
8.5	Alternative C: JWA – Short-Haul; OCX – Medium-Haul to Full International (Linked) Air Service.....	8-111
8.5.1	Aviation Uses	8-111
8.5.2	Nonaviation Revenue Support Uses.....	8-111
8.5.3	Attainment of Project Objectives	8-112
8.5.4	Environmental Impacts of Alternative C.....	8-112
8.5.5	Feasibility	8-132
8.5.6	Conclusions	8-133
8.6	Alternative F: JWA – Short- to Limited Long-Haul With Limited General Aviation; No Aviation Reuse at Former MCAS El Toro	8-134
8.6.1	Aviation Uses	8-134
8.6.2	Nonaviation Revenue Support Uses.....	8-135
8.6.3	Attainment of Project Objectives	8-135
8.6.4	Environmental Impacts of Alternative F	8-135
8.6.5	Feasibility	8-151
8.6.6	Conclusions	8-152
8.7	Alternative G: JWA – Limited International; No Aviation Reuse at Former MCAS El Toro.....	8-153
8.7.1	Aviation Uses	8-153
8.7.2	Nonaviation Revenue Support Uses.....	8-154
8.7.3	Attainment of Project Objectives	8-154
8.7.4	Environmental Impacts of Alternative G	8-154
8.7.5	Feasibility	8-173
8.7.6	Conclusions	8-174
8.8	Alternative J: JWA – Status Quo Aviation Roles; OCX Full International With Widely-Spaced Runways.....	8-175
8.8.1	Aviation Uses	8-175
8.8.2	Nonaviation Revenue Support Uses.....	8-175
8.8.3	Attainment of Project Objectives	8-175
8.8.4	Environmental Impacts of Alternative J.....	8-176
8.8.5	Feasibility	8-178
8.8.6	Conclusions	8-178
8.9	Alternative OCX Airport Runway Layout (Wildlands Ranch Alternative)	8-179
8.9.1	Aviation Uses	8-179
8.9.2	OCX Facility Improvements for the Wildlands Ranch Alternative (October 5, 1999, Submittal)	8-187
8.9.3	Nonaviation Revenue Support Uses.....	8-194
8.9.4	Environmental Impacts of Wildlands Ranch Alternative.....	8-195
8.9.5	Conclusions	8-198
8.10	Land Use Alternatives at Former MCAS El Toro.....	8-199
8.10.1	Nonaviation Revenue Support Area Alternative 1	8-199
8.10.2	Environmental Impacts of Nonaviation Revenue Support Area Alternative 1	8-201

8.10.3	Nonaviation Revenue Support Area Alternative 2	8-205
8.10.4	Environmental Impacts of Nonaviation Revenue Support Area Alternative 2	8-207
8.11	Alternative K: JWA – Status Quo Aviation Roles; Alternative Airport Site– Full Domestic to Full International; No Aviation Reuse at MCAS El Toro	8-212
8.11.1	CEQA Requirements for Alternative Sites	8-212
8.11.2	Previous Studies of Alternative Airport Sites	8-212
8.11.3	Alternative Sites Evaluated for EIR No. 573	8-214
8.12	Environmentally Superior Alternative	8-215
8.12.1	Introduction	8-215
8.12.2	No Project/No Activity Impacts Summary	8-215
8.12.3	Environmentally Superior Alternative	8-216
8.13	Comparison of the Environmental Impacts of the Project Alternatives	8-217
8.14	Alternatives Considered but Rejected.....	8-219
8.14.1	One-Airport Scenarios Not Carried Forward	8-219
8.14.2	Unlinked Two-Airport Scenarios Not Carried Forward.....	8-221
8.14.3	Linked Two-Airport Scenarios Not Carried Forward	8-225

9.0 INVENTORY OF MITIGATION MEASURES 9-1

9.1	Introduction	9-1
9.1.1	Standard Conditions of Approval.....	9-1
9.2	Mitigation Related to Land Use	9-1
9.2.1	Final EIR No. 563 Mitigation Measures	9-1
9.2.2	Additional Precautionary Mitigation Measures	9-2
9.3	Mitigation Related to General Plan Consistency.....	9-3
9.3.1	Final EIR No. 563 Mitigation Measures	9-3
9.3.2	Additional Mitigation Measures.....	9-4
9.4	Mitigation Related To Transportation and Circulation	9-4
9.4.1	Final EIR No. 563 and EIR No. 563 Supplemental Analysis Mitigation Measures.....	9-4
9.4.2	DEIR No. 573 Additional Mitigation Measures	9-8
9.5	Mitigation Related To Noise.....	9-11
9.5.1	Final EIR No. 563 Mitigation Measures	9-11
9.5.2	Proposed Mitigation Measures.....	9-12
9.6	Mitigation Related to Air Quality	9-13
9.6.1	Final EIR No. 563 Mitigation Measures	9-13
9.6.2	Mitigation Measures Updating Final EIR No. 563 Mitigation	9-15
9.6.3	Additional Mitigation Measures.....	9-22
9.7	Mitigation Related To Soils, Geology And Seismicity.....	9-26
9.7.1	Final EIR No. 563 Mitigation Measures	9-26
9.8	Mitigation Related To Hydrology And Water Quality.....	9-27
9.8.1	Mitigation Measures Identified in Final EIR No. 563.....	9-27
9.8.2	Mitigation Measures Identified in Final EIR No. 563, Final Supplemental Analysis	9-28

9.9	Mitigation Related To Biological Resources.....	9-31
9.9.1	Final EIR No. 563 Mitigation Measures	9-31
9.9.2	Additional Mitigation Measures.....	9-31
9.10	Mitigation Related To Public Services And Utilities	9-35
9.10.1	Final EIR No. 563 Mitigation Measures	9-35
9.10.2	Additional Mitigation Measures.....	9-36
9.11	Mitigation Related To Natural Resources And Energy.....	9-37
9.11.1	Final EIR No. 563 Mitigation Measures	9-37
9.11.2	Final EIR No. 563 Supplemental Analysis Mitigation Measures	9-37
9.12	Mitigation Related To Aesthetics, Light And Glare.....	9-38
9.12.1	Final EIR No. 563 Mitigation Measures	9-38
9.13	Mitigation Related To Cultural Resources	9-39
9.13.1	Final EIR No. 563 Mitigation Measures	9-39
9.14	Mitigation Related To Recreation.....	9-40
9.14.1	Final EIR No. 563 Mitigation Measures	9-40
9.14.2	Additional Mitigation Measures.....	9-40
9.15	Mitigation Related To Public Safety.....	9-41
9.16	Mitigation Related To Hazardous Wastes and Hazardous Materials Use	9-41
9.16.1	Final EIR No. 563 Mitigation Measures	9-41
9.16.2	Additional Mitigation Measures.....	9-43
9.17	Mitigation Related To Socioeconomics.....	9-45
9.17.1	Final EIR No. 563 Mitigation Measures	9-45
9.18	Mitigation Related To Risk Of Upset.....	9-45
9.18.1	Additional Mitigation Measures.....	9-45
9.19	Mitigation Related To Cumulative Impacts	9-46
9.20	Standard Conditions	9-46

10.0 ENVIRONMENTAL EFFECTS FOUND NOT TO BE SIGNIFICANT..... 10-1

11.0 SUPPLEMENTAL PHASING ANALYSIS..... 11-1

11.1	Introduction	11-1
11.2	Description of The Project at Phase 2.....	11-2
11.2.1	Proposed Project at Phase 2 - OCX Aviation Facility Improvements.....	11-5
11.2.2	Nonaviation Revenue Support Uses at Phase 2.....	11-9
11.2.3	Base Transition Plan at Phase 2	11-10
11.2.4	Interim Aviation Uses at Phase 2	11-10
11.2.5	JWA Facility Improvements for the Proposed Project at Phase 2... ..	11-10
11.3	Impacts Analysis	11-29
11.3.1	Land Use.....	11-29
11.3.2	General Plan Consistency.....	11-30
11.3.3	Transportation and Circulation.....	11-30
11.3.4	Noise.....	11-34
11.3.5	Air Quality.....	11-46
11.3.6	Landform and Topography.....	11-55

11.3.7	Soils, Geology and Seismicity	11-56
11.3.8	Hydrology and Water Quality	11-57
11.3.9	Biological Resources.....	11-57
11.3.10	Public Services and Utilities.....	11-58
11.3.11	Natural Resources and Energy	11-60
11.3.12	Aesthetics, Light and Glare	11-63
11.3.13	Cultural Resources	11-63
11.3.14	Recreation.....	11-64
11.3.15	Public Safety.....	11-66
11.3.16	Hazardous Wastes and Hazardous Materials Use	11-68
11.3.17	Socioeconomics.....	11-69
11.3.18	Level of Significance After Mitigation	11-71
11.3.19	Risk Of Upset.....	11-72
12.0	PERSONS AND ORGANIZATIONS CONSULTED	12-1
13.0	LIST OF PREPARERS AND CONTRIBUTORS.....	13-1
13.1	County of Orange	13-1
13.2	Consultants	13-2
14.0	REFERENCES	14-1

VOLUME 3: GRAPHICS

APPENDICES

- A Notice of Preparation and Initial Study
- B Comments on the Notice of Preparation
- C Technical Reports: Land Use Compatibility and General Plan Consistency
- D Technical Report: Traffic Analysis
- E Technical Report: Noise Analysis
- F Technical Report: Air Quality Analysis
- G Technical Report: Hydrology
- H Technical Report: Biological Resources
- I Technical Report: Hazardous Materials
- J Alternative Project Sites
- K Consistency with SCAG Policies
- L County of Orange Standard Conditions of Approval (1998)
- M Technical Report: Public Safety
- N Air Quality Technical Analysis
- O Supplemental Traffic and Circulation Technical Analysis

LIST OF TABLES

Table 1-1 Project Related Documents	1-9
Table 3-1 Proposed Project – Uses/Acreages By Planning Area.....	3-4
Table 3-2 Facilities at MCAS El Toro Proposed for Interim Nonaviation Reuse	3-28
Table 3-3 Major Buildings at MCAS El Toro Considered for Potential Aviation Reuse	3-30
Table 3-4 Summary of Facility Requirements for Proposed Project at JWA, 2020	3-32
Table 3-5 Requirements for General Aviation at JWA, 2005 to 2020 [a]	3-33
Table 3-6 Summary Of Aviation Activity Forecasts For The Proposed Project, 2005 To 2020	3-35
Table 3-7 Comparison of the Community Reuse Plan and the Airport System Master Plan....	3-37
Table 3-8 Comparison of Proposed Project and the 1996 Community Reuse Plan	3-39
Table 3-9 Summary List of Improvements at OCX and JWA Recommended in the Airport System Master Plan to 2020 [a].....	3-42
Table 3-10 Demolition/Construction Schedule at OCX	3-58
Table 3-11 Proposed Nonaviation Revenue Support Uses and Locations.....	3-60
Table 3-12 Proposed Agricultural Use Parcels at OCX, Phase 1	3-62
Table 4.1-1 Proposed Agricultural Use.....	4.1-19
Table 4.2-1 Summary: Orange County General Plan Consistency Topics Identified in EIR No. 563	4.2-3
Table 4.3-1 Comparison of CRP and Proposed Project Trip Generation	4.3-1
Table 4.3-2 Long-Range (Year 2020) Impacted Arterial Miles (EIR No. 563)	4.3-1
Table 4.3-3 Existing (1995) Impacted Arterial Miles (EIR No. 563 FSA)	4.3-2
Table 4.3-4 Existing Trip Generation Summary.....	4.3-5
Table 4.3-5 Deficient Locations Based on Existing Levels of Service	4.3-7
Table 4.3-6 Analyzed Scenarios	4.3-9
Table 4.3-7 Roadway Level of Service (LOS) Descriptions	4.3-12
Table 4.3-8 Trip Generation Summary - Proposed Project at Build Out.....	4.3-19
Table 4.3-9 Proposed Project Access Improvements.....	4.3-20
Table 4.3-10 Existing Plus Proposed Project Impact Summary	4.3-26
Table 4.3-11 Build Out (2020) Proposed Project Impact Summary.....	4.3-28
Table 4.3-12 Trip Generation Summary – Base Transition Plan Pre-Phase 1 Land Uses.....	4.3-30
Table 4.3-13 Trip Generation Summary – Proposed Project (Phase 1).....	4.3-31
Table 4.3-14 Phase 1 (2005) Proposed Project Impact Summary	4.3-33
Table 4.3-15 Trip Generation Summary – Proposed Project (Phase 2).....	4.3-34
Table 4.3-16 Phase 2 (2010) Proposed Project Impact Summary	4.3-35
Table 4.3-17 Trip Generation Summary – Proposed Project (Phase 3).....	4.3-37
Table 4.3-18 Phase 3 (2015) Proposed Project Impact Summary	4.3-38
Table 4.3-19 Proposed Project Access Improvements.....	4.3-54
Table 4.4-1 Factors That Affect Individual Annoyance to Noise.....	4.4-5

Table 4.4-2 Land Uses Within the 1981 AICUZ 65 dB CNEL Contour.....	4.4-15
Table 4.4-3 1998 MCAS El Toro Aircraft Operations	4.4-16
Table 4.4-4 Average Daily MCAS El Toro Aircraft Operations/Percent by Time of Day for Calendar Year 1998.....	4.4-16
Table 4.4-5 MCAS El Toro Aircraft Types by Percent of Daily Operations for Calendar Year 1998.....	4.4-17
Table 4.4-6 Average Daily Jet Operations by Flight Corridor at the MCAS El Toro in Calendar Year 1998	4.4-18
Table 4.4-7 1998 MCAS El Toro Average Daily Runway Usage.....	4.4-20
Table 4.4-8 Existing 1998 MCAS El Toro CNEL Area In Acres	4.4-21
Table 4.4-9 Land Use Summary for the 1998 Existing Condition and 1981 (AICUZ) 65 dB CNEL Contours.....	4.4-21
Table 4.4-10 Specific Receptor Locations and Existing Land Uses.....	4.4-22
Table 4.4-11 CNEL at Sensitive Receptor Locations for Calendar Year 1998 MCAS El Toro Military Operations	4.4-23
Table 4.4-12 SENEL for Military F/A-18 Operations.....	4.4-24
Table 4.4-13 SENEL for Various Military Aircraft Operations	4.4-25
Table 4.4-14 1998 JWA Air Carrier Operations by Percent of Aircraft Type.....	4.4-29
Table 4.4-15 JWA 1998 CNEL at Noise Monitoring Sites	4.4-30
Table 4.4-16 Sample Energy Average SENEL by Noise Monitoring Sites for JWA for the Fourth Quarter of 1998.....	4.4-30
Table 4.4-17 Time Above Values for Existing 1998 JWA Aircraft Operations in Average Minutes Per Day	4.4-31
Table 4.4-18 Arterial Road Vehicle Mix Data (Traffic Distribution By Time of Day Shown as a Percent of Average Daily Traffic).....	4.4-32
Table 4.4-19 Contour Distances for Existing Conditions on Orange County Roads	4.4-33
Table 4.4-20 County of Orange Land Use Compatibility Criteria	4.4-50
Table 4.4-21 County of Orange Land Use Compatibility Criteria Explanations and Definitions.....	4.4-51
Table 4.4-22 FHWA Noise Abatement Criteria for Highway Construction Projects	4.4-52
Table 4.4-23 Annual and Daily Year 2020 Operations by Time of Day at OCX.....	4.4-55
Table 4.4-24 Year 2020 Daily Operations by Runway at OCX	4.4-55
Table 4.4-25 Interim Year Operations At OCX Under the Proposed Project.....	4.4-55
Table 4.4-26 Summary of OCX Year 2020 Operations by Aircraft Type.....	4.4-57
Table 4.4-27 Interim Year Fleet Mix at OCX.....	4.4-58
Table 4.4-28 Year 2020 Daily Departures at OCX by Stage Length for the Proposed Project	4.4-62
Table 4.4-29 Land Use Comparison: 1998 Military and 2020 Proposed Project.....	4.4-66
Table 4.4-29a Land Use Comparison Table, Military, CRP and Alternative B Year 2005, 2010, 2015 and 2020.....	4.4-67

Table 4.4-30 Comparison of 1998 And 2020 CNEL At Sensitive Receptor Locations For The Proposed Project.....	4.4-69
Table 4.4-30a Comparison of CNEL, Alternative B Years 2005, 2010, 2015, and 2020	4.4-70
Table 4.4-31 Corridor Comparison of 1998 Military Operations and Noise and the Proposed Project	4.4-73
Table 4.4-32 Aggregation of Aircraft Operations into Aircraft.....	4.4-74
Table 4.4-33 Comparison of Existing Military Jet Average Daily Operations with Civilian Aviation Jet Operations by Flight Corridor	4.4-75
Table 4.4-34 Time Above Data at Sensitive Receptors for 1998 Military and 2020 Proposed Project	4.4-77
Table 4.4-34a Time Above Data for Year 2020 Alternative B at Sensitive Receptor Locations Compared with Years 2005, 2010 and 2015, 24 Hour Exposure.....	4.4-79
Table 4.4-34b Time Above Data for Year 2020 Alternative B at Sensitive Receptor Locations Compared With Years 2005, 2010 and 2015, Night Hours Only (10 p.m. – 7 a.m.).....	4.4-80
Table 4.4-35 Time Above 65 dBA for Existing Military and the Proposed Project Operations	4.4-81
Table 4.4-36 2020 Annual and Daily Operations by Time of Day at JWA.....	4.4-82
Table 4.4-37 Summary of JWA Operations by Aircraft Type for the Proposed Project	4.4-83
Table 4.4-38 2020 Daily Operations by Runway for JWA.....	4.4-84
Table 4.4-39 2020 Aircraft Stage Lengths for JWA for the Proposed Project (Average Daily Departures).....	4.4-84
Table 4.4-40 Aircraft Takeoff Profiles for JWA.....	4.4-85
Table 4.4-41 Land Use Comparison for 1998 and 2020 for JWA (Area in Square Miles)	4.4-86
Table 4.4-42 Comparison of 1998 and 2020 CNEL at JWA Sensitive Receptor Locations for the Proposed Project.....	4.4-87
Table 4.4-43 Time Above Data for JWA 1998 and 2020 Under the Proposed Project at Sensitive Receptor Locations.....	4.4-89
Table 4.4-44 Road Noise Level Changes for Future Conditions	4.4-92
Table 4.4-45 Road Noise Level Increases Greater than 1.5.....	4.4-114
Table 4.4-46 Contour Distances for Future Conditions Under the Proposed Project.....	4.4-123
Table 4.4-47 Utilization of RW 34 Right Turn by Aircraft Type and Stage Length.....	4.4-150
Table 4.4-48 Comparison of Years 1998 and 2020 CNEL at Sensitive Receptor Locations for Mitigation Alternative 1, Night Preferential Runway System	4.4-153
Table 4.4-49 Time Above Data for Year 2020 Alternative B at Sensitive Receptor Locations Compared With Night Preferential Runway Alternative 1, Night Hours Only (10 pm – 7 am).....	4.4-154
Table 4.4-50 Time Above Data for Year 2020 Alternative B at Sensitive Receptor Locations Compared With Night Preferential Runway Alternative 1, 24 Hour Exposure	4.4-155

Table 4.4-51 Comparison of Years 1998 and 2020 CNEL at Sensitive Receptor Locations for Mitigation Alternative 2, Night Curfew	4.4-157
Table 4.4-52 Time Above Data for Year 2020 Alternative B at Sensitive Receptor Locations Compared With Night Curfew Alternative 2, Night Exposure (10 pm – 7 am).....	4.4-158
Table 4.4-53 Time Above Data for Year 2020 Alternative B at Sensitive Receptor Locations Compared With Night Curfew Alternative 2, 24 Hour Exposure.....	4.4-159
Table 4.4-54 Comparison of Years 1998 and 2020 CNEL at Sensitive Receptor Locations for Mitigation Alternative 3, Night SENEL 86 Limit.....	4.4-161
Table 4.4-55 Time Above Data for Year 2020 Alternative B at Sensitive Receptor Locations Compared With 86 SENEL Night Limit Alternative 2, Night Exposure (10 pm – 7 am).....	4.4-162
Table 4.4-56 Time Above Data for Year 2020 Alternative B at Sensitive Receptor Locations Compared With 86 SENEL Night Limit Alternative 2, 24 Hour Exposure	4.4-163
Table 4.4-57 Comparison of Years 1998 and 2020 CNEL at Sensitive Receptor Locations for Mitigation Alternative 4, Right Turn Runway 34 Departures.....	4.4-164
Table 4.4-58 Time Above Data for Year 2020 Alternative B at Sensitive Receptor Locations Compared With Runway 34 North Right Turn Alternative 4, Night Exposure (10 pm – 7 am).....	4.4-165
Table 4.4-59 Time Above Data for Year 2020 Alternative B at Sensitive Receptor Locations Compared With Runway 34 North Right Turn Alternative 4, 24 Hour Exposure	4.4-166
Table 4.4-60 Summary of Land Use Impacts, Alternative B Year 2020	4.4-167
Table 4.4-61 Proposed Project Hour by Operations Per Year 2020	4.4-170
Table 4.4-62 Impact of Curfew on Annual Commercial Operations at OCX in 2020	4.4-171
Table 4.5-1A Regionwide Emissions Inventory Existing Conditions Plus Project (Pounds/Day Unless Noted) (Phase 2).....	4.5-7
Table 4.5-1B Regionwide Emissions Inventory Existing Conditions Plus Project (Pounds/Day Unless Noted) (Phase 4).....	4.5-8
Table 4.5-1C Regionwide Emissions Inventory Phase 2 Proposed Project/No Project (Pounds/Day Unless Noted).....	4.5-10
Table 4.5-1D Regionwide Emissions Inventory Phase 4 Proposed Project/No Project (Pounds/Day Unless Noted).....	4.5-11
Table 4.5-2 Ambient Air Quality at North Orange County Air Monitoring Station	4.5-14
Table 4.5-3 Ambient Air Quality at Central Orange County Air Monitoring Station.....	4.5-15
Table 4.5-4 Ambient Air Quality at North Coastal Orange County Air Monitoring Station .	4.5-16
Table 4.5-5 Ambient Air Quality Saddleback Valley Air Monitoring Station.....	4.5-17
Table 4.5-6 1998 Aircraft Operations Emissions (Pounds/Day)	4.5-19
Table 4.5-7 1998 Ground Support Equipment Emissions (Pounds/Day).....	4.5-19
Table 4.5-8 1998 Energy Consumption Emissions MCAS El Toro Site (Pounds/Day)	4.5-20
Table 4.5-9 1998 Energy Consumption Emissions John Wayne Airport (Pounds/Day).....	4.5-20

Table 4.5-10 Existing Airport Vehicular Trips Emissions (Pounds/Day)	4.5-22
Table 4.5-11 Summarized Air Pollutant Emissions for Existing Conditions (1998) (Pounds/Day Unless Noted).....	4.5-22
Table 4.5-12 Existing and Future Background Concentrations.....	4.5-24
Table 4.5-13 National and California Ambient Air Quality Standards	4.5-34
Table 4.5-14 NAAQS and CAAQS Attainment Status – South Coast Air Basin	4.5-35
Table 4.5-15 Thresholds of Significance for Air Pollutants in the South Coast Air Basin	4.5-38
Table 4.5-16 Unmitigated Construction Traffic and Equipment Exhaust Emissions, Proposed Project	4.5-40
Table 4.5-17 Unmitigated Fugitive Dust Emissions, Proposed Project.....	4.5-41
Table 4.5-18 Unmitigated PM10 Construction Concentrations in Peak Year (Phase 2, Year 3).....	4.5-43
Table 4.5-19 Unmitigated NO2 Construction Concentrations in Peak Year (Phase 2, Year 2).....	4.5-44
Table 4.5-20 Unmitigated CO Construction Concentrations in Peak Year (Phase 2, Year 2).....	4.5-45
Table 4.5-21 Unmitigated Operational Emissions - Aircraft Operations (Pounds/Day)	4.5-47
Table 4.5-22 Unmitigated Operational Emissions - Ground Support Equipment (Pounds/Day)	4.5-48
Table 4.5-23 Unmitigated Operational Emissions - Energy Consumption (Pounds/Day)	4.5-50
Table 4.5-24 Unmitigated Operational Emissions - Fuel Storage and Dispensing (Pounds/Day)	4.5-51
Table 4.5-25 Unmitigated Operational Emissions - Airport Roadways (Pounds/Day).....	4.5-53
Table 4.5-26 Unmitigated Operational Emissions - Airport Parking Lots (Pounds/Day).....	4.5-54
Table 4.5-27 Unmitigated Operational Emissions – Surface Traffic (Pounds/Day) John Wayne Airport.....	4.5-55
Table 4.5-28 Unmitigated Operational Emissions - Surface Traffic (Pounds/Day) Orange County International.....	4.5-56
Table 4.5-29 Unmitigated Operational Emissions - Surface Traffic (Pounds/Day) Both Airports	4.5-56
Table 4.5-30 Total Unmitigated Operational Emission Inventory (Pounds Per Day Unless Noted)	4.5-57
Table 4.5-31 Existing Conditions (1998) - Pollutant Concentrations - JWA (Worst Case Operations and Meteorology)	4.5-60
Table 4.5-32 Existing Conditions (1998) - Pollutant Concentrations - MCAS El Toro (Worst Case Operations and Meteorology)	4.5-61
Table 4.5-33 Phase 2 Proposed Project (Alternative B) - Pollutant Concentrations - JWA (Worst Case Operations and Meteorology)	4.5-62
Table 4.5-34 Phase 2 Proposed Project (Alternative B) - Pollutant Concentrations - OCX (Worst Case Operations and Meteorology).....	4.5-63

Table 4.5-35 Phase 4 Proposed Project (Alternative B) - Pollutant Concentrations - JWA (Worst Case Operations and Meteorology)	4.5-64
Table 4.5-36 Phase 4 Proposed Project (Alternative B) - Pollutant Concentrations - OCX (Worst Case Operations and Meteorology)	4.5-65
Table 4.5-37 Phase 4 No Project (Alternative E) - Pollutant Concentrations - JWA (Worst Case Operations and Meteorology)	4.5-66
Table 4.5-38 Existing Conditions (1998) Plus Proposed Project (Phase 2) - Pollutant Concentrations - JWA (Worst Case Operations and Meteorology).....	4.5-68
Table 4.5-39 Existing Conditions (1998) Plus Proposed Project (Phase 2) - Pollutant Concentrations - OCX (Worst Case Operations and Meteorology)	4.5-69
Table 4.5-40 Existing Conditions (1998) Plus Proposed Project (Phase 4) - Pollutant Concentrations - JWA (Worst Case Operations and Meteorology).....	4.5-70
Table 4.5-41 Existing Conditions (1998) Plus Proposed Project (Phase 4) - Pollutant Concentrations - OCX (Worst Case Operations and Meteorology)	4.5-71
Table 4.5-42 Existing One Hour CO Concentrations - Year 1998 No Project - Predicted One Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS).....	4.5-74
Table 4.5-43 Existing Eight Hour CO Concentrations - Year 1998 No Project - Predicted Eight Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS).....	4.5-75
Table 4.5-44 Phase 1 No Project – Predicted One Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS).....	4.5-76
Table 4.5-45 Phase 1 No Project – Predicted Eight Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	4.5-77
Table 4.5-46 Phase 1 Proposed Project – Predicted One Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	4.5-78
Table 4.5-47 Phase 1 Proposed Project- Predicted Eight Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	4.5-79
Table 4.5-48 Phase 2 No Project – Predicted One Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	4.5-80
Table 4.5-49 Phase 2 No Project – Predicted Eight Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	4.5-81
Table 4.5-50 Phase 2 Proposed Project – Predicted One Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	4.5-82

Table 4.5-51 Phase 2 Proposed Project – Predicted Eight Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	4.5-83
Table 4.5-52 Phase 3 No Project – Predicted One Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	4.5-84
Table 4.5-53 Phase 3 No Project – Predicted Eight Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	4.5-85
Table 4.5-54 Phase 3 Proposed Project – Predicted One Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	4.5-86
Table 4.5-55 Phase 3 Proposed Project – Predicted Eight Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	4.5-87
Table 4.5-56 Phase 4 No Project – Predicted One Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	4.5-88
Table 4.5-57 Phase 4 No Project – Predicted Eight Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	4.5-89
Table 4.5-58 Phase 4 Proposed Project - Predicted One Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	4.5-90
Table 4.5-59 Phase 4 Proposed Project - Predicted Eight Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	4.5-91
Table 4.5-60 Year 1998 Proposed Project - Predicted One Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	4.5-92
Table 4.5-61 Year 1998 Proposed Project - Predicted Eight Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	4.5-93
Table 4.5-61A Maximum CO Concentrations in PPM Due to JWA, OCX, and Off-Airport Traffic	4.5-96
Table 4.5-61B MCAS El Toro ASMP Regional Vehicle/Transit Miles for No Project and Proposed Project Alternatives.....	4.5-97
Table 4.5-61C MCAS El Toro ASMP Regional Vehicle/Transit Miles in Phase 4	4.5-98
Table 4.5-62 Regional Vehicular Traffic Emissions (Tons/Day)	4.5-99
Table 4.5-63 Regional Vehicular Traffic Emissions (Pounds/Day)	4.5-99
Table 4.5-64A Regionwide Emissions Inventory Phase 2 Proposed Project/No Project (Pounds/Day Unless Noted).....	4.5-102

Table 4.5-64B Regionwide Emissions Inventory Phase 4 Proposed Project/No Project (Pounds/Day Unless Noted).....	4.5-102
Table 4.5-65 Significance of Unmitigated Air Quality Impacts in Phase 1	4.5-103
Table 4.5-66 Significance of Unmitigated Air Quality Impacts in Phase 2	4.5-104
Table 4.5-67 Significance of Unmitigated Air Quality Impacts in Phase 3	4.5-105
Table 4.5-68 Significance of Unmitigated Air Quality Impacts in Phase 4	4.5-106
Table 4.5-69 Potential Construction Mitigation Percentage Reductions.....	4.5-122
Table 4.5-70 Operation Mitigation Percentage Reductions.....	4.5-123
Table 4.5-71 Potential GSE/APU Emissions Reductions (lbs/day).....	4.5-123
Table 4.5-72 Potential Emissions Reductions for Energy Consumption (lbs/day)	4.5-123
Table 4.5-73 Total Potential Project Emissions Reductions (Lbs/Day)	4.5-124
Table 4.5-74 Estimated Emission Reductions for Proposed Mitigation Measures – Phase 1	4.5-125
Table 4.5-75 Estimated Emission Reductions for Proposed Mitigation Measures – Phase 2	4.5-126
Table 4.5-76 Estimated Emission Reductions for Proposed Mitigation Measures – Phase 3	4.5-127
Table 4.5-77 Estimated Emission Reductions for Proposed Mitigation Measures – Phase 4	4.5-128
Table 4.5-78 Mitigated Construction Traffic and Equipment Exhaust Emissions, Proposed Project	4.5-129
Table 4.5-79 Mitigated Fugitive Dust Emissions, Proposed Project.....	4.5-130
Table 4.5-80 Mitigated Airport Operational Emissions Inventories (tons per year)	4.5-131
Table 4.5-81 Mitigated Operational Emissions Inventories for Traffic Emissions (tons per year)	4.5-132
Table 4.5-82 Total Mitigated Operational Emission Inventory (Pounds Per Day Unless Noted).....	4.5-133
Table 4.5-83 Mitigated Phase 2 Proposed Project (Alternative B) - Pollutant Concentrations - JWA (Worst Case Operations and Meteorology)	4.5-134
Table 4.5-84 Mitigated Phase 2 Proposed Project - Pollutant Concentrations - OCX (Worst Case Operations and Meteorology).....	4.5-135
Table 4.5-85 Mitigated Phase 4 Proposed Project (Alternative B) - Pollutant Concentrations - JWA (Worst Case Operations and Meteorology).....	4.5-136
Table 4.5-86 Mitigated Phase 4 Proposed Project - Pollutant Concentrations - OCX (Worst Case Operations and Meteorology).....	4.5-137
Table 4.5-87 Existing Conditions (1998) Plus Mitigated Proposed Project (Phase 2) Pollutant Concentrations - JWA (Worst Case Operations and Meteorology)	4.5-138
Table 4.5-88 Existing Conditions (1998) Plus Mitigated Proposed Project (Phase 2) - Pollutant Concentrations - OCX (Worst Case Operations and Meteorology).....	4.5-139
Table 4.5-89 Existing Conditions (1998) Plus Mitigated Proposed Project (Phase 4) - Pollutant Concentrations - OCX (Worst Case Operations and Meteorology).....	4.5-140

Table 4.5-90 Existing Conditions (1998) Plus Mitigated Proposed Project (Phase 4) Pollutant Concentrations - JWA (Worst Case Operations and Meteorology)	4.5-141
Table 4.5-91 Significance of Air Quality Impacts After Mitigation - Phase 1	4.5-143
Table 4.5-92 Significance of Air Quality Impacts After Mitigation – Phase 2	4.5-144
Table 4.5-93 Significance of Air Quality Impacts After Mitigation – Phase 3	4.5-145
Table 4.5-94 Significance of Air Quality Impacts After Mitigation – Phase 4	4.5-146
Table 4.5-95 Emissions Estimates for Existing Conditions (1998) at MCAS El Toro and JWA.....	4.5-154
Table 4.5-96 List of Toxic Air Contaminant Emission Locations at OCX in Phase 4.....	4.5-155
Table 4.5-97 TAC Emissions Under Project Conditions (Phase 2 and Phase 4) at OCX 4.5-156	
Table 4.5-98 List of Toxic Air Contaminant Emission Locations at JWA in 1998 and Phase 4	4.5-157
Table 4.5-99 TAC Emissions Under Project Conditions (Phase 2 and Phase 4) at JWA....	4.5-158
Table 4.5-100 Worst-Plausible Excess Lifetime Cancer Risk for the MEIs (Risk per million) for El Toro and OCX.....	4.5-163
Table 4.5-101 Worst-Plausible Chronic Noncancer Hazard Indices for El Toro and OCX.....	4.5-164
Table 4.5-102 Worst-Plausible Acute Noncancer Hazard Indices for El Toro and OCX.....	4.5-164
Table 4.5-103 Worst-Plausible Excess Lifetime Cancer Risk for the MEIs (Risk per million) for JWA.....	4.5-165
Table 4.5-104 Worst-Plausible Chronic Noncancer Hazard Indices for JWA	4.5-166
Table 4.5-105 Worst-Plausible Acute Noncancer Hazard Indices for JWA.....	4.5-166
Table 4.5-106 Central Tendency Excess Lifetime Cancer Risk for the MEIs (Risk per million)l	4.5-167
Table 4.5-107 Worst-Plausible Excess Lifetime Cancer Risk for the MEIs (Risk per million) for Proposed Project.....	4.5-169
Table 4.5-108 Worst-Plausible Chronic Noncancer Hazard Indices for Proposed Project ..	4.5-170
Table 4.5-109 Worst-Plausible Acute Noncancer Hazard Indices for Proposed Project.....	4.5-171
Table 4.5-110 Summary of Criteria Pollutant Impacts After Mitigation.....	4.5-174
Table 4.5-111 Analysis of Mitigation Measures for OCX: Worst-Plausible Excess Lifetime Cancer Risk for the MEIs (Risk per million)	4.5-177
Table 4.5-112 Analysis of Mitigation Measures for OCX: Worst-Plausible Chronic Noncancer Hazard Indices for the MEIs.....	4.5-177
Table 4.5-113 Analysis of Mitigation Measures for OCX: Worst-Plausible Acute Noncancer Hazard Indices for the MEIs.....	4.5-177
Table 4.5-114 Analysis of Mitigation Measures for JWA: Worst-Plausible Excess Lifetime Cancer Risk for the MEIs (Risk per million).....	4.5-178
Table 4.5-115 Analysis of Mitigation Measures for JWA: Worst-Plausible Chronic Noncancer Hazard Indices for the MEIs.....	4.5-178

Table 4.5-116 Analysis of Mitigation Measures for: Worst-Plausible Acute Noncancer Hazard Indices for the MEIs	4.5-179
Table 4.7-1 Soil Associations on the MCAS El Toro Site	4.7-4
Table 4.7-2 Faults and Seismicity Characteristics in the MCAS El Toro Site Area	4.7-7
Table 4.7-3 Soil Associations on the JWA Site	4.7-9
Table 4.7-4 Faults and Seismicity Characteristics in the JWA Area	4.7-11
Table 4.8-1 Summary of 100 Year Flows at MCAS El Toro Under Existing Conditions	4.8-4
Table 4.8-2 Summary of 100 Year Flows at JWA Under Existing Conditions.....	4.8-13
Table 4.8-3 Summary of 100 Year Flows and Related Capacity Under the Proposed Project With Existing Drainage Facilities.....	4.8-18
Table 4.8-4 Summary of 100 Year Flows and Related Capacity Under the Proposed Project With Project Drainage Facilities.....	4.8-18
Table 4.8-5 Proposed Project Flow Capacity Compared to Existing Flow Capacity	4.8-19
Table 4.8-6 NPDES Permit Runoff Concentrations for MCAS El Toro Site.....	4.8-22
Table 4.8-7 Percent Change from Existing Conditions of Outflow and Impervious Drainage Area For Proposed Project	4.8-23
Table 4.8-8 Bee Canyon/Agua Chinon Estimated Outfall Point Concentrations for Proposed Project	4.8-24
Table 4.9-1 Plant Communities in the Habitat Reserve.....	4.9-9
Table 4.9-2 Special Interest Plant Species on the MCAS El Toro Site	4.9-14
Table 4.9-3 Special Interest Wildlife Species on the MCAS El Toro Site, Habitat Reserve, JWA, and Upper Newport Bay Ecological Reserve	4.9-15
Table 4.9-4 Wildlife Species Known, Expected or With Limited Potential to Occur in the Habitat Reserve	4.9-19
Table 4.9-5 Noise Exposure for Biological Resource Receptor Locations	4.9-34
Table 4.10-1 OCTA Bus Transit Boardings, 1994-1998	4.10-7
Table 4.10-2 Existing Daily Bus Transit Trips.....	4.10-8
Table 4.10-3 Existing Metrolink Boardings/Alightings at Irvine Transportation Center, 1998	4.10-8
Table 4.10-4 Fire Stations and Their Facilities at and in the Vicinity of JWA	4.10-16
Table 4.10-5 Average Daily Transit Trips at JWA and the El Toro Site Under Project Build Out (2020).....	4.10-23
Table 4.10-6 Average Daily Transit Trips at JWA and El Toro Site Under Project Phase 1 (2005).....	4.10-24
Table 4.10-7 Average Daily Transit Trips at JWA and the El Toro Site Under Project Phase 2 (2010).....	4.10-24
Table 4.10-8 Average Daily Transit Trips at JWA and the El Toro Site Under Project Phase 3 (2015).....	4.10-25
Table 4.10-9 Proposed Project Solid Waste Generation.....	4.10-26
Table 4.10-10 Estimated Daily Demand for Electricity for the Nonaviation Revenue Support Uses	4.10-33

Table 4.10-11 Estimated Daily Demand for Natural Gas for Nonaviation Revenue Support Uses	4.10-38
Table 4.10-12 Estimated Daily Demand for Domestic Water for the Nonaviation Revenue Support Uses	4.10-41
Table 4.10-13 Estimated Daily Demand for Recycled Water for the Nonaviation Revenue Support Uses	4.10-43
Table 4.10-14 Estimated Daily Waste Water Generated by the Nonaviation Revenue Support Uses	4.10-45
Table 4.11-1 Estimated Daily Jet Fuel Use by Commercial Aircraft	4.11-8
Table 4.11-2 Summary of Agricultural Land Impacts.....	4.11-12
Table 4.11-3 Annual Electricity Demand (GWh).....	4.11-14
Table 4.11-4 Annual Natural Gas Demand (Therms).....	4.11-17
Table 4.11-5 Annual Automotive Gasoline Demand (Gallons)	4.11-18
Table 4.11-6 Annual Diesel Fuel Demand (Gallons)	4.11-19
Table 4.11-7 Construction-Related Energy Consumption – MCAS El Toro	4.11-20
Table 4.11-8 Estimated Jet Fuel Consumption for JWA and OCX Under the Proposed Project	4.11-21
Table 4.11-9 Projection of Jet Fuel Loaded onto Commercial Aircraft in the Southern California Air Service Area (1998 And 2020)	4.11-23
Table 4.11-10 Forecast of Passengers and Cargo in the Air Service Area	4.11-23
Table 4.15-1 Nationwide Existing Airport-Related Military Aircraft Accident Rates (1973-1993).....	4.15-4
Table 4.15-2 NTSB Aircraft Accident Rates for the United States (1982-1998) (On and Off Airport Combined)	4.15-7
Table 4.15-3 Accident Summary for JWA (1964 – 1998) (On and Off Airport Combined)	4.15-7
Table 4.15-4 JWA Summary of Airport Related Accidents by Phase 1980-1998	4.15-8
Table 4.15-5 Summary Comparison of Aircraft Accident Potential For MCAS El Toro and JWA, Proposed Project, 2020 [a].....	4.15-17
Table 4.15-6 Proposed Project Forecast Mix of Large and Small Aircraft	4.15-27
Table 4.16-1 Installation Restoration Program Sites at MCAS El Toro.....	4.16-8
Table 4.17-1 Population, Housing, and Employment Trends and Forecasts for 1990 to 2020	4.17-4
Table 4.17-2 Demographic and Socioeconomic Characteristics in 1990 Project Site, Surrounding Area and Orange County.....	4.17-8
Table 4.17-3 Comparison of Socioeconomic Characteristics of Final EIR No. 563, CRP to the Proposed Project.....	4.17-11
Table 4.17-4 Projected On-Site Employment Proposed Project.....	4.17-13
Table 4.17-5 Existing and Planned Residential Development in Planned Communities in the El Toro Study Area	4.17-16
Table 4.18-1 Accident Scenario Probabilities/Frequencies	4.18-9

Table 4.18-2 Accident Severity Categories	4.18-11
Table 4.18-3 Proposed Project Estimated Daily Jet Fuel Tank Truck Supply Operations by Year	4.18-13
Table 4.18-4 Jet-A Physical and Chemical Properties.....	4.18-15
Table 4.18-5 Jet-A Bulk Fuel Storage Tank Release Scenarios – MCAS El Toro(a)	4.18-17
Table 4.18-6 Jet-A Tank Truck Highway Accident Release Scenarios – Single Incident(a)	4.18-18
Table 4.18-7 Proposed Project Jet Fuel Tank Truck Daily Accident Probabilities – MCAS El Toro Site.....	4.18-20
Table 4.18-8 Proposed Project Bulk Jet Fuel Storage Tank Daily Accident Probabilities – MCAS El Toro Site.....	4.18-22
Table 4.18-9 Estimated Daily Aircraft Induced Bulk Fuel Storage Facility Accident Probabilities – MCAS El Toro Site - Runway 7 Arrivals	4.18-26
Table 4.18-10 Proposed Project Jet Fuel Tank Truck Daily Accident Probabilities – JWA Site	4.18-28
Table 4.18-11 Summary of Weighted JWA On-Site Fatal Accident Potential Under Proposed Project (2020).....	4.18-30
Table 4.18-12 Bulk Jet Fuel Storage Tank Daily Accident Probabilities – OCX with Pipeline Fuel Supply Option.....	4.18-33
Table 5.1-1 Regional Growth Projections 2000 to 2020	5-3
Table 5.1-2 Comparison of Year 2020 OCP-96M and Post-2020 Cumulative Development Forecasts	5-4
Table 5.3-1 Reasonable Foreseeable Probable Future Projects County of Orange Jurisdiction Land Use Projects.....	5-14
Table 5.3-2 Reasonably Foreseeable Probable Future Projects (July 1999) City Jurisdictions Land Use Projects	5-16
Table 5.3-3 Unspecified Projects in the City of Irvine	5-26
Table 5.3-4 Reasonably Foreseeable Probable Future Projects Related Transportation Land Use Projects	5-43
Table 5.3-5 Reasonable Foreseeable Probable Future Projects Other Related Land Use Project	5-46
Table 5.4-1 Cumulative Impacts With Cumulative and Proposed Projects.....	5-50
Table 5.4-2 Post-2020 Non-Committed, Planned (MPAH) Improvements	5-58
Table 5.4-3 Post-2020 Unplanned Mitigation Improvements	5-60
Table 5.4-4 Summary of Off-Site Cumulative Coastal Sage Scrub Impacts (Acres by Phase). ..	5-69
Table 5.4-5 Summary of Off-Site Agricultural Soils Impacts (Acres by Phase).....	5-77
Table 8.1-1 Summary Comparison of Principal Aviation Characteristics and Major Impacts for the CRP, Existing Conditions and Alternatives.....	8-6
Table 8.1-2 Summary of Aviation Activity at Orange County Airports Under Alternative Airport System Development Scenarios.....	8-7
Table 8.2-1 Residential and School Land Uses Within 65 CNEL.....	8-11

Table 8.2-2 Trip Generation Summary - No Project/No Activity Alternative	8-12
Table 8.2-3A Regionwide Emissions Inventory Phase 2 Proposed Project/No Project (Pounds/Day Unless Noted).....	8-15
Table 8.2-3B Regionwide Emissions Inventory Phase 4 Proposed Project/No Project (Pounds/Day Unless Noted)	8-16
Table 8.2-4 Phase 2 No Project/No Activity Pollutant Concentrations – JWA (Worst Case Operations and Meteorology)	8-17
Table 8.2-5 Phase 4 No Project/No Activity Pollutant Concentrations – JWA (Worst Case Operations and Meteorology)	8-18
Table 8.2-6 Phase 2 No Project – Predicted One Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	8-19
Table 8.2-7 Phase 2 No Project – Predicted Eight Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	8-20
Table 8.3-1 Trip Generation Summary - ETRPA Nonaviation Plan Alternative	8-33
Table 8.3-2 Existing Plus ETRPA Nonaviation Plan Alternative Impact Summary.....	8-35
Table 8.3-3 ETRPA Nonaviation Plan Alternative Mitigation Improvements.....	8-37
Table 8.3-4 Traffic Noise Model Results Existing Conditions.....	8-48
Table 8.3-5 Traffic Noise Model Results - Existing Plus ETRPA Nonaviation Plan - Existing Segments With 1.5 dB or Higher Traffic Noise Increase	8-52
Table 8.3-6 Traffic Noise Model Results - Existing Plus ETRPA Nonaviation Plan - New Segments	8-53
Table 8.3-7 Year 2020 No Project vs. Existing No Project Conditions - Existing Segments With 1.5 dB or Higher Traffic Noise Increase.....	8-54
Table 8.3-8 Traffic Noise Model Results - Year 2020 No Project Condition – New Segments	8-58
Table 8.3-9 – Traffic Noise Model Results - Year 2020 With ETRPA Nonaviation Plan vs. Year 2020 No Project - All Segments.....	8-59
Table 8.3-10 Traffic Noise Model Results Comparison - Number of Segments With Traffic Noise Increase Over Existing No Project Condition	8-64
Table 8.3-11 Traffic Noise Model Results Comparison – Number of Segments With Traffic Noise Increase – Year 2020 ETRPA Nonaviation Plan vs. Year 2020 No Project	8-65
Table 8.3-12 Phase 4 ETRPA Nonaviation Plan Alternative – Project Direct Air Pollutant Emissions (Pounds/Day).....	8-69
Table 8.3-13 Year 1998 Existing Conditions Plus ETRPA Nonaviation Plan - Predicted One Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	8-71
Table 8.3-14 Year 1998 Existing Conditions Plus ETRPA Nonaviation Plan - Predicted Eight Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	8-72

Table 8.3-15 Phase 4 ETRPA Non-Aviation Plan – Predicted One Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	8-73
Table 8.3-16 Phase 4 ETRPA Non-Aviation Plan – Predicted Eight Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	8-74
Table 8.4-1 Trip Generation Summary - Alternative A	8-91
Table 8.4-2 Summary Comparison of Traffic Impacts for Alternative A to Existing Conditions and Existing Conditions Plus Project.....	8-92
Table 8.4-3 Land Use Comparison with Noise Contours for 1998 Military and Year 2020 Alternatives for El Toro	8-95
Table 8.4-4 Land Use Comparison with Noise Contours for 1998 and Year 2020 Alternatives for John Wayne Airport.....	8-96
Table 8.4-5 Project Direct Air Pollutant Emissions (Pounds/Day) – Phase 4 Alternative A	8-98
Table 8.4-6 Regionwide Emissions Inventory Alternative A Phase 4 (Pounds/Day Unless Noted).....	8-99
Table 8.4-7 Phase 4 Alternative A – Predicted One Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	8-101
Table 8.4-8 Phase 4 Alternative A – Predicted Eight Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	8-102
Table 8.5-1 Trip Generation Summary – Alternative C	8-114
Table 8.5-2 Summary Comparison of Traffic Impacts for Alternative C to Existing Conditions and Existing Conditions Plus Project.....	8-115
Table 8.5-3 Alternative C Impact Summary	8-117
Table 8.5-4 Phase 4 Alternative C – Project Direct Air Pollutant Emissions (Pounds/Day) ..	8-120
Table 8.5-5 Regionwide Emissions Inventory Alternative C Phase 4	8-121
Table 8.5-6 Phase 4 Alternative C – Predicted One Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	8-123
Table 8.5-7 Phase 4 Alternative C – Predicted Eight Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	8-124
Table 8.6-1 Trip Generation Summary – Alternative F	8-136
Table 8.6-2 Summary Comparison of Traffic Impacts for Alternative F to Existing Conditions and Existing Conditions Plus Project.....	8-137
Table 8.6-3 Phase 4 Alternative F – Project Direct Air Pollutant Emissions (Pounds/Day)...	8-141
Table 8.6-4 Regionwide Emissions Inventory Alternative F Phase 4 (Pounds/Day Unless Noted).....	8-142

Table 8.6-5 Phase 4 Alternative F – Predicted One Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	8-144
Table 8.6-6 Phase 4 Alternative F – Predicted Eight Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	8-145
Table 8.7-1 Trip Generation Summary - Alternative G.....	8-157
Table 8.7-2 Summary Comparison of Traffic Impacts for Alternative G to Existing Conditions and Existing Conditions Plus Project.....	8-158
Table 8.7-3 2020 Alternative G – Project Direct Air Pollutant Emissions (pounds/day).....	8-163
Table 8.7-4 Regionwide Emissions Inventory Alternative G Phase 4 (Pounds/Day Unless Noted).....	8-164
Table 8.7-5 Phase 4 Alternative G – Predicted One Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	8-166
Table 8.7-6 Phase 4 Alternative G – Predicted Eight Hour Ambient Carbon Monoxide Concentration for Intersections with the Highest Volume and Worst Level of Service (LOS)	8-167
Table 8.9-1 Summary of Arrivals by Type of Aircraft Impacted by Short "V" Alternative Airport Runway Layout at OCX in 2020.....	8-190
Table 8.9-2 Summary of Impact Short "V" Alternative Airport Runway Layout on Projected Aircraft Arrivals at OCX in 2020	8-191
Table 8.10-1 Nonaviation Revenue Support Area Alternative 1	8-200
Table 8.10-2 Nonaviation Revenue Support Area Alternative 2	8-206
Table 8.13-1 Comparison of Key Impacts of Alternatives Relative to the Proposed Project..	8-218

LIST OF FIGURES

All figures are bound separately in the Graphics Volume in the order listed below; therefore, no page numbers are included in the listing below.

- Figure 1-1 Planning Areas at MCAS El Toro
- Figure 2-1 1996 Community Reuse Plan for MCAS El Toro
- Figure 2-2 Air Service Area and Airports
- Figure 2-3 Distance of Domestic Markets from Orange County
- Figure 2-4 Air Passenger Demand Forecasts in ASA, 1970-2020
- Figure 2-5 Air Cargo Demand Forecasts in ASA, 1975-2020
- Figure 3-1 The Proposed Project at OCX Year 2020
- Figure 3-2 Proposed Land Uses at OCX Year 2020
- Figure 3-3 Proposed Land Uses at JWA
- Figure 3-4 Proposed Development Phases for OCX
- Figure 3-5 Project Location Map
- Figure 3-6 Regional and Local Access
- Figure 3-7 Proposed Terminal Area Development at OCX
- Figure 3-8 Concept of Proposed Terminal Plan
- Figure 3-9 Conceptual Cross-Section of Proposed Terminal and Roadway
- Figure 3-10 Proposed Terminal Roadways and Phasing at OCX
- Figure 3-11 Trabuco/ETC Interchange Option
- Figure 3-12 Composite Open Space Plan
- Figure 3-13 Proposed On-Site Regional Park-MCAS El Toro Site
- Figure 3-14 Proposed General Aviation Development on East Side of JWA
- Figure 3-15 Proposed General Aviation Development on West Side of JWA
- Figure 4.1-1 Proposed Project – Surrounding Jurisdictions – MCAS El Toro
- Figure 4.1-2 Proposed JWA Project - Surrounding Jurisdictions
- Figure 4.1-3 Existing Land Uses in the Vicinity of the Proposed El Toro Project
- Figure 4.1-4 General Plan Land Uses in the Vicinity of the Proposed El Toro Project
- Figure 4.1-5 Existing Land Uses in the Vicinity of the Proposed JWA Project
- Figure 4.1-6 General Plan Land Uses in the Vicinity of the Proposed JWA Project
- Figure 4.2-1 County of Orange General Plan Designations MCAS El Toro
- Figure 4.2-2 City of Irvine General Plan Designations Planning Area 30
- Figure 4.2-3 City of Irvine Planning Areas Within Project Vicinity MCAS El Toro
- Figure 4.3-1 Traffic Analysis Study Area
- Figure 4.3-2 El Toro Circulation Plan
- Figure 4.4-1 Examples of Various Sound Levels
- Figure 4.4-2 Effect of Atmospheric Absorption on Sound Levels
- Figure 4.4-3 Single and Cumulative Noise Metric Definitions

Figure 4.4-4 Examples of Typical Outdoor CNEL Levels
Figure 4.4-5 Speech Interference and Noise Levels
Figure 4.4-6A Causes and Prevalence of All Awakenings
Figure 4.4-6B Sleep Interference and Noise Levels
Figure 4.4-7 Comparison of Logistic Fits to Original 161 Data Points of Schultz (1978) and USAF Analysis with 400 Points
Figure 4.4-8 1981 AICUZ Military Noise CNEL Contours
Figure 4.4-9 Historical Jet Operations at MCAS El Toro
Figure 4.4-10 Runway and Corridor Names
Figure 4.4-11 Flight Tracks for Military Operations for Calendar Year 1998
Figure 4.4-12 Calendar Year 1998 Military Noise Contours, CNEL 60, 65 and 70 dB
Figure 4.4-13 Specific Point Receptor Locations Used for the Detailed Analysis
Figure 4.4-14 SENEL 85 dB Contours for F/A 18 Operations
Figure 4.4-15 JWA Existing Flight Tracks
Figure 4.4-16 JWA 1998 Contours CNEL 60, 65, 70 and 75 dB
Figure 4.4-17 JWA Noise Monitoring Locations
Figure 4.4-18 SENEL 85 dB Contours for Various Aircraft Departures at JWA
Figure 4.4-19 SENEL 85 dB Contours for Arrivals at JWA
Figure 4.4-20 JWA 1985 Master Plan CNEL 60, 65, 70 and 75 dB
Figure 4.4-21 Federal Aviation Regulation Part 150 Land Use Guidelines
Figure 4.4-22 Proposed Project 2020 Operations by Time of Day
Figure 4.4-23 Proposed Project 2020 Operations by Runway
Figure 4.4-24 Proposed Project 2020 Operations by Aircraft Type
Figure 4.4-25 Typical Aircraft Departure Noise Levels
Figure 4.4-26 Typical Aircraft Arrival Noise Levels
Figure 4.4-27 El Toro Generalized Civilian Flight Tracks and Existing Buffer Zone
Figure 4.4-28 Typical JWA Track Dispersion Overlaid on OCX
Figure 4.4-29 Flight Tracks at OCX for the Proposed Project
Figure 4.4-30 Aircraft Altitude Profiles, Runways 34 Departures
Figure 4.4-31 Aircraft Altitude Profiles, Runways 07 Departures
Figure 4.4-32 Aircraft Altitude Profiles, Runways 34 Arrivals
Figure 4.4-33 El Toro Average Wind Speed and Direction by Quadrant
Figure 4.4-34 Proposed Project 2020 CNEL 60, 65 and 70 dB Contours
Figure 4.4-35 Proposed Project 2005 CNEL 60, 65 and 70 dB Contours
Figure 4.4-36 Proposed Project 2010 CNEL 60, 65 and 70 dB Contours
Figure 4.4-37 Proposed Project 2015 CNEL 60, 65 and 70 dB Contours
Figure 4.4-38 SENEL 86 dB Contours for Various Aircraft for Runway 34 Departures
Figure 4.4-39 SENEL 86 dB Contours for Various Aircraft for Runway 07 Departures
Figure 4.4-40 SENEL 86 dB Contours for Various Aircraft for Runway 34 Arrivals

- Figure 4.4-41 SENEL 86 dB Contours for Various Aircraft for Arrivals on Runway 16 and Departures on Runway 16
- Figure 4.4-42 Single Event Histograms and Bar Charts for 2020 for the Proposed Project
- Figure 4.4-43 JWA 2020 CNEL Contours 60, 65 and 70 dB Under the Proposed Project
- Figure 4.4-44 2020 No Project Alternative CNEL 60, 65 and 70 dB at JWA
- Figure 4.4-45 Proposed Project 2020 Combined Aircraft and Road Noise CNEL Contours at OCX
- Figure 4.4-46 Proposed Project 2020 Combined Aircraft and Road Noise CNEL Contours at JWA
- Figure 4.4-47 Noise Abatement Takeoff Procedures Example
- Figure 4.4-48 Mitigation Alternative 1: Night Preferential Runway System
- Figure 4.4-49 Mitigation Alternative 2: Full Curfew CNEL Contours
- Figure 4.4-50 Mitigation Alternative 3: Night 86 SENEL Limit
- Figure 4.4-51 Mitigation Alternative 4: Runway 34 Right Turn CNEL Contours and Flight Tracks
- Figure 4.4-52 Conceptual Noise Monitoring Locations at OCX
- Figure 4.5-1 Receptor Locations – MCAS El Toro
- Figure 4.5-2 Receptor Locations - OCX
- Figure 4.5-3 Receptor Locations - JWA
- Figure 4.5-4 Unmitigated 24-Hour PM10 Dispersion in Peak Year
- Figure 4.5-5 Unmitigated Annual PM10 Dispersion in Peak Year
- Figure 4.5-6 Unmitigated 1-Hour NOX Dispersion in Peak Year
- Figure 4.5-7 Unmitigated Annual Hour NOX Dispersion in Peak Year
- Figure 4.5-8 Unmitigated 1-Hour CO Dispersion in Peak Year
- Figure 4.5-9 Unmitigated 8-Hour CO Dispersion in Peak Year
- Figure 4.5-10 EDMS Dispersion Receptor Locations – MCAS El Toro
- Figure 4.5-11 EDMS Dispersion Receptor Locations - OCX
- Figure 4.5-12 EDMS Dispersion Receptor Locations - JWA
- Figure 4.5-13 CO Hot Spot Modeling Locations Existing Conditions
- Figure 4.5-14 CO Hot Spot Modeling Locations Existing Plus Proposed Project Conditions
- Figure 4.5-15 CO Hot Spot Modeling Locations Phase 4 No Project
- Figure 4.5-16 CO Hot Spot Modeling Locations Phase 4 Proposed Project
- Figure 4.5-17 Mitigated 24-Hour PM10 Dispersion in Peak Year
- Figure 4.5-18 Mitigated Annual PM10 Dispersion in Peak Year
- Figure 4.5-19 1-Hour NOX Dispersion in Peak Year
- Figure 4.5-20 Mitigated Annual NOX Dispersion in Peak Year
- Figure 4.5-21 Mitigated 1-Hour CO Dispersion in Peak Year
- Figure 4.5-22 Mitigated 8-Hour CO Dispersion in Peak Year
- Figure 4.5-23 MEI Receptors Existing Conditions

Figure 4.5-24 MEI Receptors at Build Out

Figure 4.5-25 Estimated Lifetime Excess Cancer Risk Within 3 Miles of Regional Airports Relative to No Project

Figure 4.6-1 Topographical Analysis of MCAS El Toro

Figure 4.6-2 Topographical Analysis of John Wayne Airport

Figure 4.6-3 Rough Grading Plan

Figure 4.7-1 Geologic Map of MCAS El Toro

Figure 4.7-2 Expansivity Index of Soils at MCAS El Toro

Figure 4.7-3 Generalized Depth to Shallow Groundwater Aquifer at MCAS El Toro – Irvine Sub-Basin

Figure 4.7-4 Earthquake Epicenter and Fault Map of Southern California

Figure 4.7-5 Expansivity Index of Soils at JWA

Figure 4.7-6 Generalized Depth to Shallow Groundwater at JWA

Figure 4.8-1 Project Area Drainage Network

Figure 4.8-2 Flood Plain Map of Existing Conditions at MCAS El Toro

Figure 4.8-3 Existing Hydrology MCAS El Toro

Figure 4.8-4 Water Quality Outfalls Under Existing Conditions at MCAS El Toro

Figure 4.8-5 Project Area Groundwater Elevations

Figure 4.8-6 Existing Hydrologic Conditions at JWA

Figure 4.8-7 Flood Plain Map Existing Conditions John Wayne Airport

Figure 4.8-8 Flood Plain Map Under the Proposed Project at MCAS El Toro

Figure 4.8-9 Backbone Storm Drain System Under the Proposed Project at MCAS El Toro

Figure 4.9-1 Existing Uses in the Federal Habitat Reserve

Figure 4.9-2 Central and Coastal Subregion of the NCCP

Figure 4.9-3 NCCP Vegetation Communities on the MCAS El Toro Site

Figure 4.9-4 NCCP Vegetation Communities in the Federal Habitat Reserve Including Gnatcatcher and Cactus Wren Locations

Figure 4.9-5 NCCP Vegetation Communities and Special Interest Plant Species at JWA and Vicinity

Figure 4.9-6 Special Interest Wildlife Species at JWA and Vicinity

Figure 4.9-7 Noise Receptor Locations for Biological Resources

Figure 4.9-8 1981 AICUZ, Proposed Project Noise Exposure with Biological Resources/1998 Burn Area at MCAS El Toro

Figure 4.9-9 1998 65 CNEL Noise Contour with Biological Resources at JWA

Figure 4.9-10 Proposed Project 65 CNEL Noise Exposure with Biological Resources at JWA

Figure 4.9-11 Drainage Channels and Jurisdictional Wetlands

Figure 4.10-1 Existing Setting at MCAS El Toro – Public Services

Figure 4.10-2 Irvine and Saddleback Valley Unified School Districts

Figure 4.10-3 Existing Transit Routes Serving Project Zones

Figure 4.10-4 Transit Routes and Facilities

Figure 4.10-5 Proposed Backbone Cable Television and Fiber Optic Facilities
 Figure 4.10-6 Proposed Backbone Communications Distribution Facilities
 Figure 4.10-7 Proposed Backbone Electrical Distribution Facilities
 Figure 4.10-8 Proposed Optional Pipeline Fuel Supply System For OCX
 Figure 4.10-9 Potential Bulk Fuel Storage Facility With Fuel Supplied by Truck
 Figure 4.10-10 Proposed Backbone Natural Gas Facilities
 Figure 4.10-11 Proposed Backbone Domestic Water Facilities
 Figure 4.10-12 Proposed Backbone Recycled Water Facilities
 Figure 4.10-13 Proposed Backbone Sanitary Sewers
 Figure 4.12-1 Visual Character Areas
 Figure 4.12-2 Viewshed Vantage Points
 Figure 4.12-3 Vantage Point 8 Visual Simulation MCAS El Toro Site
 Figure 4.12-4 Vantage Point 9 Visual Simulation MCAS El Toro Site
 Figure 4.12-5 Vantage Point 10 Visual Simulation MCAS El Toro Site
 Figure 4.12-6 Vantage Point 11 Visual Simulation MCAS El Toro Site
 Figure 4.14-1 Regional Recreational Facilities
 Figure 4.14-2 County Bikeways and Regional Riding and Hiking Trails
 Figure 4.14-3 City of Irvine Conservation and Open Space Map
 Figure 4.14-4 City of Irvine Trails Map
 Figure 4.14-5 City of Lake Forest Planned Bikeways Map
 Figure 4.14-6 City of Lake Forest Open Space Map
 Figure 4.14-7 Proposed On-Site Regional Park – MCAS El Toro Site
 Figure 4.14-8 Proposed Golf Courses - MCAS El Toro Site
 Figure 4.14-9 Project Aviation Noise Impacts on Recreational Facilities
 Figure 4.14-10 Project Aviation Noise Impacts on County Bikeways and Regional Riding and Hiking Trails
 Figure 4.15-1 Off-Site Accident Locations at MCAS El Toro (1965 to 1998)
 Figure 4.15-2 Aircraft Accident Rates at MCAS El Toro from 1966 to 1998
 Figure 4.15-3 Existing MCAS El Toro Accident Potential Zones
 Figure 4.15-4 Commercial Aircraft Accident Rates for 1967 to 1998
 Figure 4.15-5 General Aviation Accident Rates for 1977 to 1998
 Figure 4.15-6 Proposed OCX Arrival and Departure Routes
 Figure 4.15-7 Plot of Commercial Aircraft Landing Accidents/Incidents Relative to Runway
 Figure 4.15-8 Percent of Landing Accidents/Incidents by Distance From Runway Approach End
 Figure 4.15-9 Plot of Commercial Aircraft Departure Accidents/Incidents Relative to Runway
 Figure 4.15-10 Percent of Departure Accidents/Incidents by Distance From Runway Departure End
 Figure 4.15-11 Air Safety Zones Proposed for OCX
 Figure 4.16-1 Installation Restoration Program Sites at MCAS El Toro
 Figure 4.16-2 Proposed Project With Existing Hazardous Waste Sites MCAS El Toro

- Figure 4.17-1 Project Sites, Surrounding Area and Orange County
- Figure 4.18-1 Accident Frequency/Severity Screening Matrix Figure 8-1 Alternative A
- Figure 8-1 Nonaviation Alternative
- Figure 8-2 Alternative A
- Figure 8-3 Alternative A Year 2020 CNEL 60, 65, and 70 dB
- Figure 8-4 Alternative C
- Figure 8-5 Alternative C Year 2020 CNEL 60, 65, and 70 dB
- Figure 8-6 Alternative F
- Figure 8-7 JWA Year 2020 Alternative F CNEL Contours 60, 65, and 70 dB
- Figure 8-8 Alternative G
- Figure 8-9 JWA Year 2020 Alternative G CNEL Contours 60, 65, and 70 dB
- Figure 8-10 Alternative J
- Figure 8-11 Alternative J Year 2020 CNEL 60, 65, and 70 dB
- Figure 8-12A Wildlands Ranch Plan Alternative 1
- Figure 8-12B Wildlands Ranch Plan Alternative 2
- Figure 8-13A Nonaviation Revenue Support Area Alternative 1
- Figure 8-13B Nonaviation Revenue Support Area Alternative 2

5.0 CUMULATIVE IMPACTS

This section addresses potential cumulative impacts to the environment that could be associated with implementation of the Proposed Project in concert with one or more other past, present, and reasonably foreseeable probable future projects.

This section also includes a list of approved and planned projects, their environmental consequences, a brief discussion of their cumulative impacts on the environment and a description of the combined cumulative impact of the projects and the Proposed Project.

5.1 CEQA DEFINITION OF CUMULATIVE IMPACTS

The CEQA Guidelines (§15130) require that a project's cumulative impacts be discussed when "*...the incremental effect is cumulatively considerable...*" According to CEQA Guideline §15065(c), the term cumulatively considerable means "*...that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects...*" Specifically, CEQA Guideline §15355 defines cumulative impacts as:

"...two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.

- a) The individual effects may be changes resulting from a single project or a number of separate projects.*
- b) The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time."*

5.1.1 Methodology

When addressing cumulative impacts, Section 15130(b) of the CEQA Guidelines notes that the elements necessary to provide an adequate discussion of significant cumulative impacts encompass 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 area-wide conditions*

contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency;"

Existing Setting/Existing Conditions

The Environmental Setting/Existing Conditions for this section is the Orange County Preferred–1996 Modified (OCP-96M) growth forecasts. As discussed in Section 4.17, these forecasts include the CRP and growth in nearby unplanned/unentitled areas analyzed in EIR 563.

Related Projects Included in OCP-96M

Section 5.3 identifies individual projects identified by cities/agencies within the vicinity of the Proposed Project. The County reviewed these projects and determined that all of the projects were consistent with the year 2020 projections contained OCP-96M adopted by Orange County Council of Governments and the County except the City of Irvine General Plan post-2020 unspecified projects.

Availability of OCP-96M

The OCP-96M forecasts are contained in and form the basis of the adopted County Land Use Element (pg. II-5 through II-12), which is available at the County Planning and Development Services Department, 300 North Flower St., Santa Ana, CA. In addition to the County Land Use Element, OCP-96M was approved by the Orange County Council of Governments in 1997 and transmitted to the Southern California Association of Governments (SCAG) as the County input to the regional planning program. SCAG considers the forecasts in regional plans, including the Regional Transportation Plan. The Board of Supervisors adopted OCP-96M on July 22, 1997. Table 5.1-1 summarizes the OCP-96M forecasts for Orange County and the SCAG Baseline Projections for the year 2000 and 2020.

Post-2020 Traffic Analysis

In response to NOP comments (e.g., page 805, No. 6), Section 4.5.3 includes an analysis of development intensification in the traffic study area and build out of the MPAH. This scenario is titled “post-2020” to distinguish it from the year 2020 OCP-96M forecasts. Table 5.1-2 compares the year 2020 OCP-96M forecasts and the post-2020 forecasts analyzed herein for the seven Community Analysis Statistical Areas (Figure 4.17-1) where post-2020 impacts are anticipated by commentors to occur.

**Table 5.1-1
Regional Growth Projections 2000 to 2020**

Geographic Area	2000			2020		
	Population	Housing Units	Employment	Population	Housing Units	Employment
Orange County ¹	2,865,830	990,311	1,381,695	3,244,600	1,154,528	2,116,600
Los Angeles County	9,818,235	3,131,606	4,557,889	12,249,088	3,984,119	5,817,641
Riverside County	1,687,764	547,361	515,712	2,815,987	917,960	960,777
San Bernardino County	1,772,539	564,962	617,055	2,830,050	904,942	1,103,362
SCAG Region ²	16,999,453	5,434,377	7,441,154	22,352,394	7,320,286	10,573,759

SCAG region includes Orange, Los Angeles, San Bernardino, Riverside, Ventura, and Imperial counties. SCAG projections for Orange County and OCP-96M differ slightly so totals for region do not add.

- NOTES: [1] *Orange County Preferred-1996 Modified*. Prepared by California State University at Fullerton. July 1997.
 [2] *SCAG Projections*. Adopted April, 1998.

**Table 5.1-2
Comparison of Year 2020 OCP-96M and Post-2020 Cumulative Development Forecasts**

Location	CAA	Population			Housing			Employment		
		2020	P-2020	Diff.	2020	P-2020	Diff.	2020	P-2020	Diff.
North Newport Beach (JWA Area)	47	45,356	46,870	+1,514	19,762	20,398	+636	22,040	22,175	+135
John Wayne Airport	48	5,671	6,996	+1,325	2,540	4,578	+2,038	59,983	70,904	+10,921
Irvine Industrial Complex	49	11,625	11,650	+25	4,172	4,247	+75	100,566	118,144	+17,578
South Irvine	50	36,760	47,627	+10,867	15,109	19,571	+4,462	19,279	36,701	+17,422
Central Irvine	51	83,487	93,026	+9,539	28,625	34,048	+5,423	38,387	63,841	+25,454
North Irvine	52	94,983	108,821	+13,838	35,377	41,320	+5,943	70,069	80,388	+10,319
East Irvine Industrial	53	0	0	0	0	0	0	40,526	68,353	+27,827
Total		277,882	314,990	+37,108	105,585	124,162	+18,577	350,850	460,506	109,656

Notes: CAA: Community Analysis Area
CAA boundaries are shown on Figure 4.17-1.
Year 2020 forecasts are based on OCP-96M.

Cumulative Analyses in Section 4.0

Certain impact analysis are best understood and/or are required by policy/regulation (e.g., Measure M/CMP) to include a cumulative impact component. These analyses include issues such as traffic and traffic related noise, regional air quality and other impact categories. Wherever this is the case, Section 4.0 includes a cumulative analysis (e.g., Transportation) and the discussion for these impacts will refer the reader to the appropriate subsection in Section 4.0.

5.1.2 Geographic Area

The geographic area addressed in this cumulative impact analysis can vary according to the nature and characteristics of each environmental resource. For example, certain project-related impacts tend to be site-specific with limited potential for cumulative impacts beyond the general vicinity of the project site. In contrast, other project-related impacts may exhibit a greater potential for affecting a larger geographic area, perhaps on a regional scale. Consequently two geographic areas have been defined for the purposes of this cumulative impact analysis.

The first area is the general vicinity of the Proposed Project, encompassing the communities of Costa Mesa, Irvine, Lake Forest, Laguna Woods, Mission Viejo, Newport Beach, Santa Ana, and Tustin. This geographic area generally coincides with that addressed in the impact evaluation section for Transportation and Circulation (Section 4.3). Environmental resources evaluated for cumulative impact potential within this area include:

- i) Land Use
- ii) General Plan Consistency
- iii) Transportation and Circulation
- iv) Noise
- v) Local Air Quality
- vi) Topography
- vii) Soils, Geology, and Seismicity
- viii) Hydrology and Water Quality
- ix) Biological Resources
- x) Public Services and Utilities
- xi) Aesthetics, Light and Glare
- xii) Cultural Resources
- xiii) Recreation
- xiv) Public Health and Safety
- xv) Hazardous Materials and Hazardous Waste
- xvi) Area Socioeconomics

The second geographic area encompasses the County and a substantial portion of the Southern California region, generally the territory within the jurisdiction of the South Coast Air Quality Management District (SCAQMD), comprising the Counties of Los Angeles, Orange, San Bernardino (non-desert portion), and Riverside. Environmental resources evaluated for cumulative impact potential within this area include:

- i) Regional Air Quality
- ii) Natural Resources and Energy
- iii) County-wide Socioeconomics

For these categories, the cumulative impact analysis focuses primarily on the potential impacts of reasonably anticipated future projects. Impacts of past and present projects are reflected in the baseline environmental conditions in the Proposed Project area, and are discussed, as appropriate, in Section 4.0.

5.1.3 Criteria for Selection

The following criteria were considered in identifying those past, present, and reasonably anticipated projects that could potentially result in cumulative impacts:

- i) Projects that have an application for construction and/or operation pending before an agency with permit/approval authority, and/or;
- ii) Proposed projects that have the potential to generate environmental impacts that, when addressed collectively with the Proposed Project, could result in cumulative impacts to the environment, and/or;
- iii) Proposed projects that are of a similar character, could affect similar environmental resources, or are located in geographic proximity to the Proposed Project.

5.2 SUMMARY OF CONCLUSIONS IN FINAL EIR NO. 563

The following paragraphs summarize the conclusions derived from the cumulative impact analyses of the MCAS El Toro Community Reuse Plan, (CRP) Final Environmental Impact Report No. 563 CRP (Final EIR No. 563), as well as the Final Supplemental Analysis to EIR No. 563. Also summarized are CEQA findings, facts in support of findings and overriding considerations, relative to cumulative impact issues (Final EIR No. 563 (Vol. 6A), Attachment A). In addition, specific mitigation measures pertaining to cumulative impacts from the Mitigation Monitoring Plan contained within Final EIR No. 563 as supplemented by the FSA are noted, where appropriate and applicable.

CEQA Guidelines Sections 15130(d) and (e) and 15183 permit reliance on a prior EIR to streamline cumulative impacts analysis. The cumulative impacts analysis in EIR No. 563

was not challenged in court. To the extent permissible under CEQA and except as otherwise stated herein, this EIR incorporates by reference and relies upon the EIR No. 563 Cumulative Impacts discussions.

5.2.1 Land Use

Final EIR No. 563 found that the CRP 65 dBA CNEL noise contour encompassed a smaller area than the existing MCAS El Toro Policy Implementation Line (PIL) due to a projected quieter commercial aircraft fleet mix. Therefore, restricted land uses in this area could be removed, modified or otherwise converted to different, less restrictive uses at subsequent levels of planning. According to Final EIR No. 563, these potential changes could increase the overall land use intensity surrounding the site. It was further noted that implementation of the CRP would add to the overall urbanization of Orange County and the area surrounding MCAS El Toro.

Final EIR No. 563 judged these potential changes/effects to constitute a significant cumulative impact related to land use, which could not feasibly be mitigated to below a level of significance. Remaining unavoidable effects were judged to be acceptable when balanced against specific overriding economic, legal, social, technological, and other considerations.

5.2.2 Transportation and Circulation

In Final EIR No. 563, traffic impacts associated with the CRP were found to be significant. It was anticipated that the CRP would result in significant cumulative adverse impacts related to transportation and circulation when combined with other planned or approved projects. Although changes and alterations were incorporated into the design of the CRP to substantially avoid or mitigate significant environmental effects, the identified cumulative effects remained significant and unmitigable. No feasible measures were identified to mitigate this impact to below a level of significance. However, the County of Orange Board of Supervisors determined that this significant effect was acceptable because of specific overriding economic, legal, social, technological, and other considerations described in the Statement of Overriding Considerations.

5.2.3 Noise

Final EIR No. 563 concluded that the CRP could potentially contribute to background traffic noise exposure along the roadway segments of Trabuco Road. This was considered to be a significant adverse cumulative impact, which feasibly could not be mitigated to below a level of significance. The Board determined that the remaining unavoidable effects were acceptable when balanced against the specific overriding economic, legal social technological and other considerations described in the Statement of Overriding Considerations.

5.2.4 Hydrology and Water Quality

Final EIR No. 563 found that some cumulative water quality impacts would occur due to the intensification of urban uses on the MCAS El Toro site, including roads, parking areas and structures, which could result in increased urban pollutants in rain and irrigation runoff from the site. When coupled with other projects in the San Diego Creek watershed, it was determined that the proposed CRP would contribute to a cumulatively significant adverse impact related to water quality in the area.

Although changes and alterations were incorporated into the design of the CRP to substantially avoid or mitigate significant environmental effects, the identified cumulative effects remained significant and unmitigable. No feasible measures were identified to mitigate this impact to below a level of significance. However, the Board determined that this significant effect was acceptable because of specific overriding economic, legal, social, technological, and other considerations described in the Statement of Overriding Considerations.

5.2.5 Public Service and Utilities

Final EIR No. 563 found that the CRP was not anticipated to result in significant adverse impacts on public services and utilities after mitigation. However, it also noted that, in those areas which are no longer subject to aviation-related noise due to potential future changes in the PIL, more intensive development might be permitted. Final EIR No. 563 indicated that such development could create a higher demand on public services and utilities than previous uses. In addition, Final EIR No. 563 noted several related projects in the vicinity of MCAS El Toro that would require public services and utilities. In conjunction with these projects, the CRP was found to result in significant cumulative adverse impacts related to public services and utilities described in the Statement of Overriding Considerations.

Although changes and alterations were incorporated into the design of the CRP to substantially avoid or mitigate significant environmental effects, the identified cumulative effects remained significant and unmitigable. No feasible measures were identified to mitigate this impact to below a level of significance. However, the Board determined that this significant effect was acceptable because of specific overriding economic, legal, social, technological, and other considerations.

5.2.6 Natural Resources and Energy

Final EIR No. 563 found that the loss of agricultural land on MCAS El Toro was a significant unavoidable adverse impact, and that the loss of agricultural land is also a significant adverse impact of many related projects. Although changes and alterations were incorporated into the design of the CRP to substantially avoid or mitigate significant environmental effects, the identified cumulative effects remained significant and unmitigable. No feasible measures were identified to mitigate this impact to below a level of significance. However, the Board determined that this significant effect was acceptable because of specific overriding economic, legal, social, technological, and other considerations described in the Statement of Overriding Considerations.

5.2.7 Cultural Resources

Final EIR No. 563 found that implementation of the CRP had the potential to significantly and adversely affect certain Cold War era historic resources on the MCAS El Toro site. Although changes and alterations were incorporated into the design of the CRP to substantially avoid or mitigate significant environmental effects, the identified cumulative effects remained significant and unmitigable. No feasible measures were identified to mitigate this impact to below a level of significance. However, the Board determined that this significant effect was acceptable because of specific overriding economic, legal, social, technological, and other considerations.

5.2.8 Socioeconomics

Final EIR No. 563 found that implementation of the CRP was expected to result in several socioeconomic impacts of potential significance when considered cumulatively with related projects. These impacts would be related to jobs/housing balance and low/moderate income housing needs. Although changes and alterations were incorporated into the design of the CRP to substantially avoid or mitigate significant environmental effects, the identified cumulative effects remained significant and unmitigable. No feasible measures were identified to mitigate this impact to below a level of significance. However, the Board determined that this significant effect was acceptable because of specific overriding economic, legal, social, technological, and other considerations described in the Statement of Overriding Considerations.

A Supplemental Analysis (SA) for Final EIR No. 563 was prepared in response to a January 6, 1998 ruling and writ of mandate, issued by the San Diego Superior Court, which found that certain portions of EIR No. 563 were inadequate or incomplete under CEQA. The SA was not required to address CRP cumulative impacts.

5.3 REASONABLY FORESEEABLE PROBABLE FUTURE PROJECTS

This section addresses those projects that met the criteria outlined under Subsection 5.1.1, Methodology. Varying levels and completeness of information, depending on the current development status of the particular project, is provided for each of the projects addressed below. This information may range from a simple project description to a comprehensive environmental review. Some of the cumulative projects were previously included in Final EIR No. 563, as provided below. In such cases, the local jurisdictions responsible for these projects were contacted, and the information on these projects was updated.

County Projects

- Foothill Ranch Planned Community
- Portola Planned Community
- Saddleback Meadows

City Projects

- Sakioka Property
- Lower Peters Canyon Specific Plan
- Westpark Project
- Moulton Parkway Commercial Development
- Foothill-Aliso Commercial Center
- Saddleback Valley Church
- First American Title
- MacArthur Place
- Nexus Twin Towers
- One Hutton Center

Transportation Related Projects

- Alton Parkway Extension
- Foothill Transportation Corridor

Other Related Land Use Projects

- Natural Community Conservation Plan
- MCAS Tustin Reuse Plan
- James A. Musick Facility

Other projects were identified by surveying other land use authorities within the planning area of the Proposed Project. These surveys consisted of formal and informal inquiries designed to acquire existing available environmental documentation and project descriptions. These projects included the following:

City Jurisdiction Land Use Project

- Segerstrom Homes Ranch
- General Plan Amendment/Zone Changes for 440 acres south of MCAS El Toro
- Oak Creek Project
- Westpark Project
- Revised City of Irvine Planning Areas 51, 35, and 30, Annexation, General Plan Amendment, Pre-Zoning, and Zone Change Project
- GPA/ZC to allow housing in the Spectrum area of Irvine
- North Irvine Middle School
- Northwood High School
- Alicia Skate Park
- Allen Oldsmobile/Cadillac
- Enterprise Car Sale
- La Paz Park
- Mission Imports Remote Parking Lot
- Moulton Elementary Field Improvements
- Shapell/Aliso Creek
- Shea Business Properties – Ocean Ranch II
- St. Anne’s School
- Tutor Time/Tentative Parcel Map No. 98-171
- Town Centre
- Home Depot Center
- Baker Ranch Planned Community
- A.J. West Ranch
- Los Angeles Athletic Company Project
- Mammoth Equities Project
- Painted Trails
- Stone Ridge
- County Suites Hotel
- Shea Properties Apartments
- Acero Street Office Project
- Heritage Villas Senior Housing
- Camino Capistrano Mini-Storage
- Legacy Partners Office Building
- Mission Viejo Mall Expansion

- Lexus Auto Dealership
- Rockwell Site Expansion
- Koll Center Expansion
- Hertz Extended Stay Hotel and Office Project
- Amendment 891 in Newport Beach
- Conerant Expansion Project (GPA 96-39(f))
- OCTA CenterLine Project

Transportation Land Use Projects

- I-405/SR-55 HOV Access Improvement Project
- LAX Expansion Project
- Proposed High Speed Rail Project

The following subsections provide a discussion of probable future projects that, when considered in combination with the Proposed Project have the potential to result in related or cumulative impacts. These projects are presented as follows:

- i) County of Orange Jurisdiction Land Use Projects
- ii) City Jurisdictions Land Use Projects
- iii) Transportation Land Use Projects
- iv) Other Land Use Projects
- v) Non-Planned Areas Land Use Projects

The jurisdiction of the County of Orange encompasses the unincorporated territory of Orange County. The city jurisdictions include the Cities of Costa Mesa, Irvine, Laguna Woods, Mission Viejo, Lake Forest, Newport Beach, and Santa Ana. Laguna Niguel is located outside, but adjacent to, the area of cumulative project effects, so future projects in Laguna Niguel are not discussed in detail in this section of the EIR. The potential for cumulative impacts associated with other projects in the vicinity of JWA and MCAS El Toro also is discussed.

One important consideration in the present cumulative impact discussion focuses on the removal or reduction of the existing PIL, which restricts the development of noise sensitive land uses in areas included within the PIL. Removal of this noise constraint in the remaining undeveloped areas could encourage or might allow different land use mixes than previously indicated on local jurisdiction's General Plans in the PIL area, since certain noise sensitive uses could be deemed compatible with reduction or removal of the PIL. The principal area where residential or noise sensitive uses could be expanded is the undeveloped or underdeveloped areas of east Irvine, which are now subject to the military 65 dB CNEL line and the military accident potential zones.

5.3.1 County of Orange Jurisdiction Land Use Projects

There are no proposed land use projects under County jurisdiction within the vicinity of JWA. JWA is surrounded by the incorporated cities of Costa Mesa, Irvine and Newport Beach.

The County of Orange has identified a number of approved and planned projects in the vicinity of MCAS El Toro that potentially contribute to cumulatively significant adverse impacts. A summary of the projects that fall under the County of Orange jurisdiction is provided in Table 5.3-1. As noted in Subsection 5.1.1, the County determined that these projects are consistent and included in OCP-96M. Each is discussed separately, below.

For the present cumulative impact analysis, the OCP-96M was used to assess population, housing and employment projections for the MCAS El Toro and JWA site vicinities, as well as surrounding areas of the County. This information was then used to evaluate the potential for cumulative impacts to occur as a result of implementing the Proposed Project. OCP-96M Projections were approved by the Orange County Council of Governments in 1997 and were transmitted to the Southern California Association of Governments (SCAG) as the County input to the regional planning program. SCAG incorporated OCP-96M into its program, including the Regional Transportation Plan.

5.3.1.1 Foothill Ranch Planned Community

The Foothill Ranch Planned Community comprises four primary land uses: residential, commercial, industrial, and open space. In general, residential developments would be limited to 3,900 dwelling units to be located between Whiting Ranch Wilderness Park and an Urban Activity Center between Portola Parkway and the Foothill Transportation Corridor (FTC). Commercial development within this Planned Community would be limited to 750,000 sq. ft., including a 500,000 sq. ft. regional commercial center. Industrial uses include a business park along the FTC in the Urban Activity Center. In addition, office, research and development uses would be developed. In total, these uses would not exceed 6,925,000 sq. ft. on approximately 415 acres. At present, approximately 95 percent of Foothill Ranch is built-out (Orange County, 1999e).

5.3.1.2 Portola Hills Planned Community

The Portola Hills Planned Community covers approximately 1,006 acres in foothills of the Santa Ana Mountains. The site lies west of El Toro Road and south of Santiago Canyon Road in unincorporated areas of Orange County. This project area is adjacent to the Foothill Ranch Planned Community to the west and south, and partially lies within the existing MCAS El Toro PIL.

**Table 5.3-1
Reasonable Foreseeable Probable Future Projects County of Orange Jurisdiction Land Use Projects**

Project	Jurisdiction	Open Space	Residential	Commercial	Industrial	Transportation	Other	Brief Project Description And Building Inventory	Proposed	Approved	Pre-design	In Progress	Complete	Comments
Foothill Ranch Planned Community	County of Orange	X	X	X	X			Development of approximately 6,925,000 sq.ft. located between Whiting Ranch Wilderness Park and an Urban Activity Center between Portola Parkway and the Foothill Transportation Corridor (FTC) Residential: 3,900 dwelling units Commercial: 750,000 sq.ft., including 500,000 sq.ft regional commercial center. Industrial: 6,925,000 sq. ft. business park on 415 acres				X		95% built out
Portola Hills Planned Community	County of Orange	X	X	X				Development of approximately 1,006 acres located west of El Toro Road and South of Santiago Canyon Road Residential: approximately 2,200 residential units on 493 acres Commercial: approximately 200 acres developed into business park and commercial areas Open Space: approximately 400 acres of dedicated open space and open space easements				X		95% built out
Saddleback Meadows	County of Orange	X	X					Development of a 229.2 acre site located approximately 0.25 mile south of the intersection of El Toro and Live Oak Canyon Roads Residential: 235 single family detached residential units, associated infrastructure, a wildlife movement corridor, hiking/riding trail, and biological resource enhancement on a 229.2-acre site.		X				In litigation, no development onsite

The Portola Hills Planned Community comprises approximately 2,200 residential units on 493 acres, a business park and commercial area totaling approximately 200 acres, and dedicated open space and open space easements totaling approximately 400 acres. As of July 1999, Portola Hills is 95 percent built out (Orange County, 1999e).

5.3.1.3 Saddleback Meadows

The Saddleback Meadows project proposes development of 235 single-family detached residential units, associated infrastructure, a wildlife movement corridor, hiking/riding trail, and biological resource enhancement on a 229.2-acre site. The site is approximately 0.25 mile south of the intersection of El Toro and Live Oak Canyon Roads, immediately north of the Hidden Ridge community and east of El Toro Road in the Foothill Trabuco Specific Plan area of unincorporated Orange County. As of November 1999, the Saddleback Meadows project was being litigated, and no development had occurred on the project site (Orange County, 1999c).

5.3.2 City Jurisdictions Land Use Projects

The regional city jurisdictions include the Cities of Costa Mesa, Irvine, Laguna Niguel, Laguna Woods, Mission Viejo, Lake Forest, Newport Beach, and Santa Ana. The related projects that fall under city jurisdictions are outlined in Table 5.3-2.

5.3.2.1 City of Costa Mesa Jurisdiction Land Use Projects

Sakioka Property

This project consists of the planned expansion of existing structures on a 47-acre site located at 555 and 575 Anton Boulevard. The project includes the construction of four office buildings, two restaurants, a retail outlet, a 200-room hotel, one clubhouse and three parking structures. The project would add approximately 546,600 sq. ft. of commercial use. The City of Costa Mesa City Council approved the project in April 1999. The first phase of the project, is underway. The entire project should be built out between the year 2000 to 2005. The City is currently processing a General Plan Amendment to allow an additional 100 rooms to be constructed in the project Hotel. The City Planning Commission may consider this amendment in November 1999 (letter from City dated Sept. 30, 1999)

**Table 5.3-2
Reasonably Foreseeable Probable Future Projects
City Jurisdictions Land Use Projects**

Project	Jurisdiction	Open Space	Residential	Commercial	Industrial	Transportation	Other	Brief Project Description And Building Inventory					Comments	
								Proposed	Approved	Pre-design	In Progress	Complete		
Sakioka Property	City of Costa Mesa			X							X			This project was approved in April 1999 by the City Council. The City is processing a General Plan Amendment (GPA) to allow the development of up to 300 rooms in the Project Hotel. The City Planning Commission may consider the EPA in Nov. 1999. The project would be completed within the year 2000-2005.
Segerstrom Home Ranch	City of Costa Mesa			X						X				The City is currently processing a General Plan Amendment to allow for the development of this project. A Draft EIR is also being prepared on this project. If approved, the IKEA Store would be developed within the year 2000 to 2005. The office development would be constructed in equal increments through the year 2020.
General Plan Amendment/Zone Change for 440 Acres South of MCAS El Toro (Alternative to the Proposed Project)	City of Irvine			X		X	X			X				Final EIR pending and completion expected in early 2000. Project is currently in litigation with County of Orange. May be superseded by Annexation GPA

Project	Jurisdiction	Open Space	Residential	Commercial	Industrial	Transportation	Other	Brief Project Description And Building Inventory					Comments	
								Proposed	Approved	Pre-design	In Progress	Complete		
Lower Peters Canyon Specific Plan	City of Irvine	X	X	X			X				X	X		Construction complete in some areas.
Oak Creek Project	City of Irvine	X	X	X	X						X	X		Approximately 70% complete. Construction of residential units continuing.
West Park Project	City of Irvine		X								X	X		Approximately 95% complete.
Revised City of Irvine Planning Areas #51, #35, and #30, Annexation, General Plan Amendment, Pre-Zoning, and Zone Change Project (An alternative to the Proposed Project)	City of Irvine	X	X	X			X			X				NOP issued August 1999; Draft EIR issued 11-24-99; considered by the City to be Phase II of Millennium Plan (ETRPA Nonaviation Plan).
GPA/ZC to allow housing in the in the Spectrum area.	City of Irvine	X					X			X				An EIR will be prepared on the proposed GPA/ZC, with the EIR tentatively to be distributed for public review in February 2000. Consideration of this project has also been tentatively scheduled for consideration by the City's PC in April 2000 and by the City Council in May 2000.
North Irvine Middle School	Irvine Unified School District						X				X	X		Neg. Dec. February 1992 Completion for 2003.

Project	Jurisdiction	Open Space	Residential	Commercial	Industrial	Transportation	Other	Brief Project Description And Building Inventory					Comments
								Proposed	Approved	Pre-design	In Progress	Complete	
Northwood High School	Irvine Unified School District						X				X	Approved 1995. Construction completed in Fall 1999; portion of school now open..	
Alicia Skate Park	City of Laguna Niguel						X					Preliminary Planning Stages.	
Allen Oldsmobile/Cadillac Parcel Map 97-126	City of Laguna Niguel			X						X	X	Under Construction.	
Enterprise Car Sales	City of Laguna Niguel			X						X	X	Approved May 1999.	
La Paz Park	City of Laguna Niguel	X								X		DEIR released for Public Review in July 1999.	
Mission Imports Remote Parking Lot	City of Laguna Niguel			X						X	X	Approved December 1998.	
Moulton Elementary Field Improvements	City of Laguna Niguel						X			X		Approved by City.	
Shapell/Aliso Creek	City of Laguna Niguel		X							X	X	Under Construction.	
Shea Business Properties-Ocean Ranch II	City of Laguna Niguel			X						X		Approved July 1999.	
St. Anne's School	City of Laguna Niguel						X			X		Construction completed July 1999.	
Tutor Time/Tentative Parcel Map No. 98-171	City of Laguna Niguel			X						X		Approved January 1999.	
Moulton Parkway Commercial Development	City of Laguna Woods			X							X	L.A. Times sorting/distribution building.	
Town Centre	City of Laguna Woods			X						X	X	In Building Plan Check Process. Project to begin construction in early 2000.	
Home Depot Center	City of Laguna Woods			X								X This project has already been constructed.	

Project	Jurisdiction	Open Space	Residential	Commercial	Industrial	Transportation	Other	Brief Project Description And Building Inventory					Comments	
								Proposed	Approved	Pre-design	In Progress	Complete		
Foothill-Aliso Commercial Center	City of Lake Forest Influence County of Orange			X				Approximately 16-acre site, previously zoned open space, located on Portola Parkway. This property consists of several elements, including: <ul style="list-style-type: none"> • 10,000 sq. ft. on approximately 8-acre parcel • 40,000 sq. ft. office building • 7,000 sq. ft. office and food facility on approximately 3-acre parcel • 3-acre right-of-way for Portola Parkway 	X			X		To date, 40,000 square feet of office space has been developed. The City of Lake Forest Planning Commission will consider the development of 110,000 square feet of commercial development on this project site in November 1999. It is anticipated that this project will be completed between the year 2000 and 2005.
Baker Ranch Planned Community	City of Lake Forest			X	X			4.3 million square feet of business park development on 370 gross acres located south of the Foothill toll road with the City of Lake Forest City boundary to the west and Bake Parkway to the east.	X					The property owner is currently processing a new tentative tract map for this project.
A.J. West Ranch	City of Lake Forest			X	X			933,000 square feet of business park development on 77 acres of land located south of the Foothill toll road and east of Baker Parkway.		X		X		This project will be developed between the year 2000 – 2005.
Saddleback Valley Church	City of Lake Forest			X			X	This project is located on the northwest corner of El Toro Road and Portola Parkway and includes 800,000 square feet of Church related development. Some commercial development may also be included in this project. The County of Orange approved 310,000 square feet of development as part of a master plan for the Church. Some Church buildings have been constructed to date. Precise development plans for the remaining 489,000 square feet have not been submitted to the City of Lake Forest	X	X		X		It is anticipated that this project will be built out by 2005.
Los Angeles Athletic Company (LAACO) Project	City of Mission Viejo			X				3 acre site located north of El Toro Road and east of Marguerite Parkway to provide 77,095 sq. ft. self-storage facility.		X		X		Approved June 1999. Construction to begin on or before September 1999..
Mammoth Equities Project	City of Mission Viejo	X		X				3 lot (~16.5 acre) site located at the southeast corner of El Toro Road and Marguerite Parkway. Commercial: 49,000 sq.ft. office building on ~2.5 acres Open Space: remainder of property		X				Approved June 1999. Construction to begin Fall 1999.
Painted Trails	City of Mission Viejo	X	X					Site located north of the Foothill toll road, east of El Toro Road, and west of Upper Oso Reservoir. The project will accommodate 578 single-family dwelling units and several private parks.		X		X		Approved 1990.

Project	Jurisdiction	Open Space	Residential	Commercial	Industrial	Transportation	Other	Brief Project Description And Building Inventory					Comments	
								Proposed	Approved	Pre-design	In Progress	Complete		
Stone Ridge	City of Mission Viejo	X	X					340 acre site located east of Olympiad Road between Alicia Parkway and Fieldcrest Street. The project will accommodate: • 468 single-family dwelling units • open space and local parks		X		X		Approved 1991.
Country Suites Hotel	City of Mission Viejo						X	East of Marguerite Parkway and west of Foothill toll road ramps at Los Alisos; 28941 Los Alisos Boulevard 118 room hotel		X		X		Approved December 1998; under construction; January 2000 occupancy.
Shea Properties Apartments	City of Mission Viejo		X					East of Marguerite Parkway and west of the Country Suites Hotel; 28401 Los Alisos Boulevard 230 apartment units		X		X		Approved August 1998; Under construction; May 2000 occupancy.
Acero Street Office Project	City of Mission Viejo			X				225,000 square feet office buildings located on Acero Street	X					Proposed development; preliminary discussions, projected January 2001 occupancy.
Heritage Villas Sr. Housing	City of Mission Viejo		X					Southeast corner of Oso parkway and Country Club Drive; 26836 Oso Parkway; 143 senior housing units		X		X		Approved October 1998; under construction; April 2000 occupancy.
Camino Capistrano Mini-Storage	City of Mission Viejo						X	Camino Capistrano, northerly of Crown Valley Parkway; 107108 square feet of mini-storage, with a caretaker residence on 4.79 acres	X					Development application scheduled for City action in October 1999; projected February 2001 completion.
Legacy Partners Office Bldg.	City of Mission Viejo			X				27101 Puerta Real 27201 Puerta Real 232,000 square feet of office in two buildings		X				Approved June 1999; Preliminary site work begun; October 2000 completion.
Mission Viejo Mall Expansion (Shops at Mission Viejo)	City of Mission Viejo			X				Shops at Mission Viejo expansion; 500,000 square feet of commercial		X				Approved May 1997; buildout by June 2000, with 250,000 sq. ft. open in 1999 (Nordstrom/Saks).
Lexus Auto Dealership	City of Mission Viejo						X	North of Avery and East of Marguerite; 28242 Marguerite Parkway; 38,614 square feet of auto dealership		X				Approved June 1998; September 2000 completion.
Rockwell Site Expansion	City of Newport Beach			X				Expansion of 442,000 sq.ft. existing office structure General Plan and Planned Community Amendments to allow additional 566,000sq ft office building expansion.	X					Under environmental review.

Project	Jurisdiction	Open Space	Residential	Commercial	Industrial	Transportation	Other	Brief Project Description And Building Inventory					Comments	
								Proposed	Approved	Pre-design	In Progress	Complete		
Koll Center Expansion	City of Newport Beach			X				250,000 sq.ft., 10-story existing office structure located at intersection of MacArthur Boulevard and Jamboree Road. Commercial: Demolition and reconstruction of parking structure, office building expansion. Also includes a GPA, amendment of Planned Community Development Plan and Traffic Study pursuant to the Newport Beach TPO and an EIR	X					Under environmental review. It's anticipated that a Draft EIR would be distributed for review in January 2000. Project to be considered by the City's Planning Commission in March or April 2000. The City Council tentatively scheduled to consider the project in April 2000.
Holtze Extended Stay Hotel and Office Project	City of Newport Beach			X				Former automobile dealership located at 1300 Quail Drive and Dove Avenue. 100,000 sq.ft. office building, 350 bed hotel located at 1300 Quail Drive.		X				Mitigated Negative Declaration approved by City Council. Plan check stage – unknown date to commence construction.
Amendment 891	City of Newport Beach	X	X	X			X	This project is located on 412 acres of land at 5400 West Pacific Coast Highway. The proposed planned community would include the following uses: <ul style="list-style-type: none"> • 1,750 dwelling units • 75 hotel/motel units • 70,000 sq. ft. of commercial uses • 10-acre elementary school site • 216 acres for parks, open space and habitat restoration The project includes GPA pre-zoning, pre-annexation zoning, Local Coastal Permit and a development agreement.	X					The County of Orange is acting as the lead agency on this EIR currently being prepared on this project.
Conerant Expansion Project GPA 96-3(f)	City of Newport Beach			X				This commercial project is located at 4311 Jamboree Road. The project includes a GPA and PC amendments to allow for the development of an additional 566,000 sq. ft. of space for a total of 1,008,775 sq. ft. of allowable building area on the project site.	X					A Draft EIR has been prepared on this project and is out for public review. Review of the project by the City's Planning Commission and City Council has been tentatively scheduled for February 2000.

Project	Jurisdiction	Open Space	Residential	Commercial	Industrial	Transportation	Other	Brief Project Description And Building Inventory					Comments	
								Proposed	Approved	Pre-design	In Progress	Complete		
First American Title	City of Santa Ana			X				211,769 sq.ft. development located near the intersection of MacArthur Boulevard and Main Street and includes construction of 3 additional office buildings at 1,2 and 3 First American Way, as follows: <ul style="list-style-type: none"> • 87,500 sq.ft., 3-story • 64,059 sq.ft, 2-story • 60,210 sq.ft., 2-story 		X		X		Project is part of the MacArthur Place project.
MacArthur Place (Brea Properties)	City of Santa Ana			X				Mixed-use project located at the intersection of MacArthur Boulevard and Main Street. Residential: 29,419 sq. ft complex to residential housing, including 280 apartments and condominiums Commercial: 8 building complex to provide office and retail space		X				Environmental review is complete.
Nexus Twin Towers (Nexus)	City of Santa Ana			X				Development of 456,414 sq.ft. for an office building atop an existing parking garage, located at 1 East Majestic Drive Commercial: office building will be 456,414 sq.ft., parking garage will be 220,366 sq.ft.		X		X		One twin tower is in plan check phase. Construction of other twin tower is complete.
One Hutton Center	City of Santa Ana			X				13 story office building project located near the northeast corner of MacArthur Boulevard and Main Street to provide: <ul style="list-style-type: none"> • 240 room hotel • 5,000 sq.ft. restaurant • 4,740 sq.ft. conference hall 7 story parking structure (875 parking spaces)		X				Approved July 1992
OCTA Centerline Project	OCTA					X			X					Draft EIR released September 1999 for public review.

Segerstrom Home Ranch

The project is located on a 93 acre site between Harbor Boulevard and Fairview Road. The project includes a 300,000 square feet for an IKEA Home Furnishing Store and 1,994,177 square feet of office space. The City is processing a General Plan Amendment to allow for this use. A Draft EIR is currently being prepared on this project. It is anticipated that this project would be considered by City decision makers sometimes in the year 2000. It is also anticipated that the IKEA Store will be developed within the year 2000 to 2005. The office development would be constructed in equal increments through the year 2020 (letter from City dated Sept. 30, 1999).

5.3.2.2 City of Irvine Jurisdiction Land Use Projects

General Plan Amendment/Zone Change for 400 Acres South of MCAS El Toro

Approximately 340 acres of the MCAS El Toro site are within the City of Irvine corporate boundary. The City has proposed GPA 21633-GA and a Zone Change, which would allow the 340 acres to be developed as a multi-use entertainment center. The center would provide areas for a sports stadium, an arena, a hotel/convention center, and other cultural uses. A multi-modal transit corridor has been proposed to traverse the site. This corridor is intended to accommodate a number of transit options, including motor vehicles, shuttles, trams, or light rail. It also features a pedestrian/bicycle trail system. An EIR was approved for this project in 1996. It is the subject of litigation by the County. That EIR may be superseded by the City's 1999 EIRs for the Millennium Plan or Millennium Plan II. The Final EIR for the Millennium Plan was not approved in June 1999, and a revised Draft EIR was issued in November 1999. The Final EIR is expected to be reviewed again in early 2000 (City of Irvine, 1999c).

Although this portion of the MCAS El Toro site lies within the City of Irvine corporate boundary, the federal, state or County government likely will be the ultimate property owner, in which case the property would not be subject to City of Irvine planning and zoning laws and regulations. Because this is a project alternative, it would not cause cumulative impacts in conjunction with the Proposed Project. For an analysis of nonaviation land uses at former MCAS El Toro, refer to Chapter 8.0, Alternatives.

Lower Peters Canyon Specific Plan

The Lower Peters Canyon Specific Plan encompasses approximately 1,400 acres on a site bounded by the west leg of the Eastern toll road (ETR) and the planned alignment of Portola Parkway to the north, Culver Drive to the east, I-5 to the south, and Jamboree Road to the west. The Lower Peters Canyon Specific Plan contains land use regulations and development standards for all uses proposed for this site, including an allowance for up to

10,568 residential dwelling units. Currently, development is underway for up to 8,000 residential dwelling units, retail commercial land uses, a special use park, a community park, six neighborhood parks, a library and schools on 1,400 acres. The site recently was incorporated within the City of Irvine, between the East Tustin Planned Community in the City of Tustin and the Northwood community in the City of Irvine. Elements of the Lower Peters Canyon Specific Plan currently are being implemented in phases. Mixed uses have been constructed, as of July 1999 (City of Irvine, 1999b).

Oak Creek Project

The Oak Creek project lies within City of Irvine Planning Area 12 on a 1,250-acre site, located north of I-5, east of Sand Canyon Avenue, south of I-405, and west of Jeffrey Road. This mixed use project includes the planned development of 4,050 new residential units, 1,105,000 sq. ft. of new commercial uses, 2,871,080 sq. ft. of new industrial uses, 470,000 sq. ft. of new non-residential uses, 535,400 sq. ft. of new institutional uses, and 339 acres of conservation/open space use. The residential component of the Oak Creek project, entailing development of single-family dwelling units on a 350-acre site, will be constructed in various phases. This project was approved by the City of Irvine, and construction began on a portion of the project in July 1999 (City of Irvine, 1999b).

West Park Project

This project is located in City of Irvine Planning Area 38 on a 350-acre site. It is bounded on the north by Irvine Center Drive, on the south by Barranca Parkway, on the east by Culver Drive and on the west by Harvard Drive. Ninety-five percent of the proposed 3,850 units had been constructed, as of July 1999. Development of the remainder of the West Park Project was still under City of Irvine review, as of July 1999 (City of Irvine, 1999b).

Revisions to City of Irvine Planning Areas 51, 35, 30, annexation of certain areas into the City, General Plan Amendment, Pre-Zoning, and zone change.

The City of Irvine has proposed to amend Planning Areas 51, 35, and 30, and to adopt the necessary pre-zoning and a zone change for these areas to allow for land uses outlined in the ETRPA Nonaviation Plan referred to by the City as Phase II of the Millennium Plan. (See Chapter 8.0, Alternatives, for a discussion of the Millennium Plan.)

This project would also provide for the annexation of approximately 4,298 acres of the MCAS El Toro site into the City of Irvine. Also to be annexed into the City would be the James A. Musick Jail and Irvine Ranch Water District parcels in the vicinity of the MCAS El Toro, with these land uses comprising an additional 113 acres.

This project also calls for an amendment to the Master Plan of Arterial Highways for on-site roadway classified as Major, Primary and Secondary Arterial in the above areas.

This project will also include, at a minimum, amendments to the following City of Irvine General Plan Elements: Land Use; Circulation, Parks and Recreation, Open Space and Conservation, Noise and Safety.

In its NOP dated August 13, 1999, the City of Irvine stated that a Program Final EIR will be prepared for the project that includes a detailed project description and an analysis of the potential environmental effects of the project, identification of mitigation measures necessary to reduce significant environmental impacts and alternatives that could avoid or substantially reduce significant effects of the project. The Draft EIR was released for public review the day before Thanksgiving, November 24, 1999.

This project would not co-exist with the Proposed Project and thus does not contribute to cumulative impacts in conjunction with the Proposed Project.

Unspecified Future Projects

The City of Irvine has indicated that it anticipates that a number of new residential, commercial, office, warehouse and institutional type projects will be developed within the various planning areas in the City in the years to come. No specific information was received on the exact location of these projects. These projects are based on projections being made by the City on development that could occur throughout the City. Proposed development includes the land uses proposed by the revised Millennium Plan which is an alternative project to the proposed project. These projects are summarized in Table 5.3-3.

General Plan Amendment and Zone Change to Allow Housing in the Spectrum Area

The City of Irvine has initiated a General Plan Amendment and Zone Change to allow housing in the Spectrum area of the City. An amendment to the Irvine Center Development Agreement may also be required for this to occur. The City is in the process of retaining a consultant to prepare an EIR on this project. The EIR is tentatively scheduled to be distributed for public review in February 2000. Consideration of this project has also been tentatively scheduled for review by the City's Planning Commission in April 2000 and by the City Council in May 2000.

5.3.2.3 Irvine Unified School District (IUSD)

There are two school projects currently under consideration by the Irvine Unified School District (IUSD), Northwood High School (which has been partially built) and North Irvine Middle School. According to the IUSD, the City of Irvine Planning Area 27 also proposes a possible elementary school development during the year 2003 as part of the City's Final EIR (IUSD, 1999b). However, according to the IUSD no planning, other than general discussion, has been initiated for this potential school.

**Table 5.3-3
Unspecified Projects in the City of Irvine**

Land Use	Planning Area 1					Planning Area 2					Planning Area 4					Planning Area 6					
	Existing Development as of 6/30/99	Year 2000	Year 2005	Year 2015	Year 2020+	Existing Development as of 6/30/99	Year 2000	Year 2005	Year 2015	Year 2020+	Existing Development as of 6/30/99	Year 2000	Year 2005	Year 2015	Year 2020+	Existing Development as of 6/30/99	Year 2000	Year 2005	Year 2015	Year 2020+	
Estate [1]					222					25											263
Single Family Detached [1]					4,310					2,496	629	307	1,664	100							
Condominium [1]												1,276	537	365							
Apartment [1]												139	2,913	70							
Commercial [2]					23,769					406,300	406,300	339,299	329,401								
Office [2]										300,226	300,226	150,000	899,774								
Warehouse [2]																					
R&D [2]																					
Institutional [2]																					

[1] Number in dwelling units

[2] Number in square feet

[3] 85,000 seats for the stadium shown, however, no square footage is included in Planning Area total.

[4] Portion of PA 30 within the area covered by the Millennium Plan.

**Table 5.3-3
Unspecified Projects in the City of Irvine**

Land Use	Planning Area 12					Planning Area 13				
	Existing Development as of 6/30/99	Year 2000	Year 2005	Year 2015	Year 2020+	Existing Development as of 6/30/99	Year 2000	Year 2005	Year 2015	Year 2020+
Estate [1]										
Single Family Detached [1]	573	259	400	175						
Condominium [1]	552	525	712	568						
Apartment [1]	1,039		359							
Commercial [2]			150,000							
Hotel [2]						61,512				
Vehicle Related Comm. [2]	51,684									
Office [2]					1,197,980	1,487,652	181,687		1,630	
Warehouse [2]	347,962	250,505			77,550	497,638				
R&D [2]	73,580	250,000	1,452,358	120,881	485,531	208,164	61,512		2,161,622	1,073,476
Institutional [2]	95,360				195,854					

[1] Number in dwelling units

[2] Number in square feet

[3] 85,000 seats for the stadium shown, however, no square footage is included in Planning Area total.

[4] Portion of PA 30 within the area covered by the Millennium Plan.

**Table 5.3-3
Unspecified Projects in the City of Irvine**

Land Use	Planning Area 17					Planning Area 18				
	Existing Development as of 6/30/99	Year 2000	Year 2005	Year 2015	Year 2020+	Existing Development as of 6/30/99	Year 2000	Year 2005	Year 2015	Year 2020+
Estate [1]										
Single Family Detached [1]					1,680					200
Condominium [1]					350					550
Apartment [1]										
Commercial [2]					300,000					
Hotel [2]										
Vehicle Related Comm. [2]										
Office [2]										
Warehouse [2]										
R&D [2]			200,000		710,000					
Institutional [2]										

[1] Number in dwelling units

[2] Number in square feet

[3] 85,000 seats for the stadium shown, however, no square footage is included in Planning Area total.

[4] Portion of PA 30 within the area covered by the Millennium Plan.

**Table 5.3-3
Unspecified Projects in the City of Irvine**

Land Use	Planning Area 22					Planning Area 27					Planning Area 30				
	Existing Development as of 6/30/99	Year 2000	Year 2005	Year 2015	Year 2020+	Existing Development as of 6/30/99	Year 2000	Year 2005	Year 2015	Year 2020+	Existing Development as of 6/30/99	Year 2000	Year 2005	Year 2015	Year 2020+
Estate [1]		100	100		200			500		475					
Single Family Detached [1]								600		580					
Condominium [1]															
Apartment [1]															
Commercial [2]															2,906,013
Commercial/Office [2]															261,360
Commercial Stadium (seats) [3]															(85,000)
Commercial/Recreation [2]															328,006
Hotel [2]															
Vehicle Related Comm. [2]															78,400
Office [2]															
Warehouse [2]															
R&D															1,190,059
Institutional										283,293					

[1] Number in dwelling units
 [2] Number in square feet
 [3] 85,000 seats for the stadium shown, however, no square footage is included in Planning Area total.
 [4] Portion of PA 30 within the area covered by the Millennium Plan.

**Table 5.3-3
Unspecified Projects in the City of Irvine**

Land Use	Planning Area 31					Planning Area 32				
	Existing Development as of 6/30/99	Year 2000	Year 2005	Year 2015	Year 2020+	Existing Development as of 6/30/99	Year 2000	Year 2005	Year 2015	Year 2020+
Estate [1]										
Single Family Detached [1]										
Condominium [1]										
Apartment [1]										
Commercial [2]	47,710				35,908	292,421				939,844
Commercial/Office [2]										
Commercial Stadium (seats) [3]										
Commercial/Recreation [2]										
Hotel [2]	76,359									
Vehicle Related Comm. [2]										
Office [2]	240,309	223,520				2,596,912				
Warehouse [2]	311,186					1,610,405				
R&D	446,000	626,380	1,906,156		870,090	314,492				
Institutional										

- [1] Number in dwelling units
- [2] Number in square feet
- [3] 85,000 seats for the stadium shown, however, no square footage is included in Planning Area total.
- [4] Portion of PA 30 within the area covered by the Millennium Plan.

**Table 5.3-3
Unspecified Projects in the City of Irvine**

Land Use	Planning Area 33					Planning Area 34					Planning Area 35				
	Existing Development as of 6/30/99	Year 2000	Year 2005	Year 2015	Year 2020+	Existing Development as of 6/30/99	Year 2000	Year 2005	Year 2015	Year 2020+	Existing Development as of 6/30/99	Year 2000	Year 2005	Year 2015	Year 2020+
Estate [1]															
Single Family Detached [1]															
Condominium [1]															
Apartment [1]															
Military Housing []															
Commercial [2]	499,547	157,673	643,195		92,560	149,220	213,767	400,000		579,443	100,595				
Auto Dealer [2]						84,882					172,033				489,691
Auto Repair [2]						35,643					79,973				
Commercial/Office [2]															
Commercial Stadium (seats)															
Commercial/Recreation [2]															
Health Club						41,067									
Hotel [2]	142,357	407,335									67,672				
Vehicle Related Comm. [2]															
Office	2,323,185	646,365	1,000,000		3,997,703	213,275					3,353,209	150,000			242,058
Warehouse						143,407					7,195,422				
R&D							252,799	1,000,000		4,972,227	823,371	100,000			
Institutional															

[1] Number in dwelling units

[2] Number in square feet

[3] 85,000 seats for the stadium shown, however, no square footage is included in Planning Area total.

[4] Portion of PA 30 within the area covered by the Millennium Plan.

**Table 5.3-3
Unspecified Projects in the City of Irvine**

Land Use	Planning Area 38					Planning Area 39				
	Existing Development as of 6/30/99	Year 2000	Year 2005	Year 2015	Year 2020+	Existing Development as of 6/30/99	Year 2000	Year 2005	Year 2015	Year 2020+
Estate [1]										
Single Family Detached [1]	871				25					
Condominium [1]	608				396					
Apartment [1]	1,264				686					
Military Housing []	552				701					
Commercial [2]										
Auto Dealer [2]										
Auto Repair [2]										
Commercial/Office [2]										
Commercial Stadium (seats)										
Commercial/Recreation [2]										58,450
Health Club										
Hotel [2]										
Vehicle Related Comm. [2]										
Office										
Warehouse										
R&D										
Institutional										

- [1] Number in dwelling units
- [2] Number in square feet
- [3] 85,000 seats for the stadium shown, however, no square footage is included in Planning Area total.
- [4] Portion of PA 30 within the area covered by the Millennium Plan.

**Table 5.3-3
Unspecified Projects in the City of Irvine**

Land Use	Planning Area 31					Planning Area 30 [4]				
	Existing Development as of 6/30/99	Year 2000	Year 2005	Year 2015	Year 2020+	Existing Development as of 6/30/99	Year 2000	Year 2005	Year 2015	Year 2020+
Estate [1]										
Single Family Detached [1]					772					
Condominium [1]					176					
Apartment [1]			113		2,200					
Military Housing []										
Commercial [2]										
Auto Dealer [2]						151,000				50,000
Commercial/Office [2]			506,000		4,134,000					
Commercial Stadium (seats) [3]										85,000 [3]
Commercial/Recreation [2]					519,000	41,000				
Health Club [2]										
Hotel [2]										
Vehicle Related Comm. [2]										
Office [2]										
Warehouse [2]										
R&D [2]			1,576,000		6,603,000					
Institutional [2]					513,000	1,003,000				673,000

[1] Number in dwelling units

[2] Number in square feet

[3] 85,000 seats for the stadium shown, however, no square footage is included in Planning Area total.

[4] Portion of PA 30 within the area covered by the Millennium Plan.

IUSD - North Irvine Middle School

The proposed middle school is located south of Hicks Canyon Wash and east of Hicks Canyon Road in the City of Irvine. The school will be located on 20 acres and will accommodate 750 students. The school is in its pre-planning and pre-design phase. It is anticipated to open in Fall 2003 (IUSD, 1999).

IUSD - Northwood High School

This high school is located at the northwest corner of the future intersection of Portola Parkway and Yale Avenue in the City of Irvine. The project is located on approximately 43 acres and ultimately will accommodate 2,400 students (The Planning Center, 1995). The Northwood High School project was approved in 1995 and was opened in September 1999 (IUSD, 1999).

5.3.2.4 City of Laguna Niguel Jurisdiction Land Use Projects

The City of Laguna Niguel requested that several projects within its jurisdiction be considered within the cumulative impact analysis of the Proposed Project (City of Laguna Niguel, 1999). These projects are shown in Table 5.3-2 and include:

- i) Alicia Skate Park, which is a new proposed park for skate boarding activities
- ii) Allen Oldsmobile/Cadillac Tentative Parcel Map 97-126, which is the expansion of an existing automobile dealership located at Camino Capistrano and Paseo De Colinas.
- iii) Enterprise Car Sales, which is a new used car sales lot and rental facility on 2 acres located at 28112 Camino Capistrano in Laguna Niguel.
- iv) La Paz Park, which is a new 6.3 acre public park with lighted sports fields.
- v) Mission Imports Remote Parking Lot, which is a new 2.4 acre parking lot located at 1 Star Drive which would provide a surplus parking area with night lighting.
- vi) Moulton Elementary Field Improvements, which would provide for the expansion of active recreational facilities and parking area at this elementary school.
- vii) St. Anne's School, which would provide for the expansion of an existing private school with the project to include 29,235 square feet of classroom building and 33,065 square feet of classroom/administration building at 32451 Bear Brand Road.
- viii) Shapell/Aliso Creek/Tentative Tract No. 15670, which is a 9 acre tract of single-family dwelling units. Forty-six homes will be built in this new tract of homes.
- ix) Shea Business Properties-Ocean Ranch II, which will provide 45,000 square feet of office dwelling and health club, located at 32451 Golden Lantern Street in the city.
- x) Tutor Time/Tentative Parcel Map No. 98-171, which is located at Aliso Creek Road, east of La Paz Road and will provide 12,000 square feet day-care facility.

However, these projects fall outside of the planning area associated with the Proposed Project. As a result, the potential for these projects to contribute to significant cumulative impacts in combination with the Proposed Project is considered to be minimal and unlikely. Consequently, they have not been included within this cumulative impact analysis.

5.3.2.5 City of Laguna Woods (formerly Leisure World) Jurisdiction Land Use Projects

The unincorporated community of Leisure World incorporated to form the City of Laguna Woods in March 1999. The City is currently considering the following projects.

Moulton Parkway Commercial Development

This 20,178 square foot commercial project will provide sorting and distribution space for the Los Angeles Times. The project presently is slated to commence construction in Fall 1999 (letter from City of Laguna Woods dated 9/29/99).

Town Centre

This project includes 7 buildings that contain 253,270 square feet of space in the Town Centre commercial project. This project is located on 14 acres on El Toro Road. The project includes:

- a) 140 room (80,000 square feet) hotel
- b) 40,000 square feet of medical offices
- c) 7,000 square feet restaurant
- d) 45,570 square feet of garden office
- e) 68,000 square feet of offices
- f) 5,900 square feet of service retail
- g) 6,800 square feet of retail uses

The project is in building plan check, with construction anticipated to begin in early 2000.

Home Depot Center

This project contains 215,773 square feet of commercial use. This project includes the following stores:

- a) Home Depot
- b) Office Max
- c) Rite Aide
- d) Stater Brothers
- e) In-line retail

- f) Bank
- g) Pad for future restaurant use

Most of the structures in this project have already been constructed and are in use.

5.3.2.6 City of Lake Forest

Commercial Use on Portola Parkway

A conceptual site plan has been proposed for commercial uses of up to 110,000 sq. ft. on an approximately 9-acre parcel. The site is located on Portola Parkway, between El Toro Road and Saddleback Parkway, in unincorporated Orange County within the sphere of influence of the City of Lake Forest. The City of Lake Forest is processing this project which would be located on approximately 6 acres of land. The project includes a Site Plan/Use Permit (PA 95-0097) for the construction of a 40,000 sq. ft. office building and 7,000 sq. ft. office/food facility. The remaining 3 acres provide right-of-way for Portola Parkway. The project consists of several elements, including:

- i) General Plan Land Use Amendment on a 16-acre site of which 9 acres will be used for the project;
- ii) Zone Change – from Planned Community Open Space to Community Commercial Sign Restriction; and
- iii) Community Profile Amendment from Open Space/Conservation to Community Commercial.

As of July 1999, the city was still reviewing a planning application for the site, but no development has been approved. (City of Lake Forest, 1999)

Baker Ranch Planned Community Project

The County of Orange originally approved a Planned Community and Development Agreement for this commercial and industrial project in 1988. The project is located on 370 gross acres of land and is located south of the Foothill transportation corridor and west of the City of Lake Forest city boundary and east of Baker Parkway. The 1988 tentative tract map has expired and the property owner is currently processing a new tentative tract map and revised area plan for 4.3 million square feet of business park development on the project site with the City of Lake Forest. It is estimated that the project will be completed between 2000 – 2010. (Letter from City dated 9-27-99)

A.J. West Ranch

This project is located south of the Foothill transportation corridor and east of Baker Parkway. The project includes the development of 933,000 square feet of business park

development. This project would be developed between the year 2000 and 2005. (Letter from City dated 9-27-99)

Saddleback Valley Church

This project is located on the northwest corner of El Toro Road and Portola Parkway and includes the development of 800,000 square feet of church related development. Some commercial development may also be included in this project. The County of Orange originally approved 310,000 square feet of development as part of a master plan for this Church. Some Church buildings have already been constructed on the project site. Precise development plans for the remaining 489,000 square feet have not been submitted to the City of Lake Forest. It is anticipated that this project will be built out by the year 2005. (Letter from City dated 9-29-99)

5.3.2.7 City of Newport Beach Jurisdiction Land Use Projects

Holtze Extended Stay Hotel and Office Project

The Holtze Hotel and Office Project, located at 1300 Quail Drive and Dove Avenue in Newport Beach, is the location of a former automobile dealership. The Newport Beach City Council approved a Mitigated Negative Declaration (MND) for the 100,000 sq. ft. office building and the 350-bed extended stay hotel. The project was in the plan check stage, as of July 1999. The planned construction date is unknown. (City of Newport Beach, 1999)

Koll Center Expansion

The Koll Center Expansion project would entail expansion of parking space and facilities associated with an existing 250,000 sq. ft., 10-story office tower in Koll Center Newport, located at the intersection of MacArthur Boulevard and Jamboree Road. The project includes demolition and reconstruction of an existing parking structure, as well as the addition of a new parking structure. The project involves a General Plan Amendment, an amendment to the Planned Community Development Plan (Zoning Document), and a Traffic Study pursuant to the Newport Beach Traffic Phasing Ordinance. The project is undergoing environmental review by the City, with an EIR to be distributed in January 2000. The project is tentatively scheduled to be reviewed by the City's Planning Commission in March 2000. The City Council is tentatively scheduled to consider the project in April 2000. (Letter from City of Newport Beach, Dated October 27, 1999)

Rockwell Site Expansion

The project involves a General Plan Amendment and a Planned Community Amendment to allow for the development of an additional 566,000 sq. ft. (for a total of 1,008,000 sq. ft.) of allowable building area on the project site. The project was undergoing environmental review by the City, as of July 1999. (City of Newport Beach, 1999)

Amendment 891

This project is located on 412 acres of land at 5400 West Pacific Coast Highway. The proposed planned community would include the following uses:

- 1,750 dwelling units
- 75 hotel/motel units
- 70,000 sq. ft. of commercial uses
- 10-acre elementary school site
- 216 acres for parks, open space and habitat restoration

The project includes general plan amendment pre-zoning, pre-annexation zoning, a Local Coastal Permit, and a development agreement. The County of Orange is acting as the Lead Agency on the EIR currently being prepared on this project.

Conerant Expansion Project, GPA 96-3(f)

This commercial project is located at 4311 Jamboree Road. The project includes an amendment to the City's General Plan and an amendment to the planned community covering the project site to allow for the development of an additional 566,000 sq. ft. of commercial space for a total of 1,008,775 sq. ft. of allowable building area on the project site.

A Draft EIR has been prepared on the project and is out for public review. Review of the project by the City's Planning Commission and City council has been tentatively scheduled for February 2000.

5.3.2.8 City of Santa Ana Jurisdiction Land Use Projects

First American Title

This project is part of the MacArthur Place project in the City of Santa Ana, and involves the construction of the new headquarters for First American Title. The project has recently been completed and included the construction of three separate office buildings at 1, 2 and 3 First American Way, near the intersection of MacArthur Boulevard and Main Street in the City of Santa Ana. The floor areas of the three buildings are 87,500 sq. ft. (3-story), 64,059 sq. ft.

(2-story) and 60,210 sq. ft. (2-story), respectively. The environmental review process for this project has been completed (City of Santa Ana, 1999b).

MacArthur Place (Brea Properties)

MacArthur Place is a mixed-use development project that will involve the construction of retail space, condominiums, apartments and other uses. Located at the intersection of MacArthur Boulevard and Main Street in the City of Santa Ana, a portion of the 8-building development is in the plan-check stage of the development process. This portion includes 280 apartments, which would provide 29,419 sq. ft. of residential space. The environmental review process has been completed (City of Santa Ana, 1999a).

Nexus Twin Towers (Nexus)

This project is also part of the MacArthur Place project. The Nexus Twin Towers project involves the development of an office building atop an existing parking garage, located at 1 East Majestic Drive near the intersection of MacArthur Boulevard and Main Street in the City of Santa Ana. The area of the office building, now in the plan check stage of the planning process, will be 456,414 sq. ft. The office and parking garage combined will be 676,780 sq. ft. The environmental review process is complete (City of Santa Ana, 1999b).

One Hutton Center

This project involves the construction of a proposed office building, consisting of 12 stories and a 13th level penthouse for mechanical equipment, a 240-room hotel, a 5,000 sq. ft. restaurant, a 4,740 sq. ft. conference hall, and a 7-story parking structure to accommodate 875 parking spaces. The project is located near the northeast corner of MacArthur Boulevard and Main Street. The environmental review was completed in July 1992. No construction has been scheduled, as of July 1999, and the Conditional Use Permit has been extended (City of Santa Ana, 1999b).

5.3.2.9 City of Mission Viejo Land Use Projects

Los Angeles Athletic Company (LAACO) Project

The LAACO project is located north of El Toro Road and east of Marguerite Parkway. This project includes the development of 77,095 sq. ft. self-storage facility on a 3-acre site. The project was approved in June 1999. It is in the early stage of development. Construction is expected to commence on or before September 1999. (LAACO, 1999)

Mammoth Equities Project

The Mammoth Equities project is located at the southeast corner of El Toro Road and Marguerite Parkway. The project includes the development of 49,000 sq. ft. of commercial

office space on an approximately acre site. However, only 2.5 acres is to be developed due to zoning restrictions. The project was approved in June 1999. As of July 1999, the project was in the plan check stage. (Mammoth Equities, 1999)

Painted Trails

This project is located north of the Foothill Transportation Corridor, east of El Toro Road and west of Upper Oso Reservoir. The project will accommodate 578 single-family dwelling units and several private parks. The project is covered by Final Program EIR for the Mission Viejo General Plan, which was certified by the Mission Viejo City Council in 1990. Portions of the project have been constructed, as of July 1999. (City of Mission Viejo, 1999)

Stone Ridge

This project is located east of Olympiad Road between Alicia Parkway and Fieldcrest Street. The project will accommodate 468 single-family dwelling units, open space, and local parks on approximately 340 acres. The project is covered by previously certified Final Program Final EIR MV89-2 and the City of Mission Viejo General Plan Final Program EIR and Initial Study/Addendum IS GP91-1, which serve as the Program EIRs for the Stone Ridge project. Portions of the project have been constructed, as of July 1999. (City of Mission Viejo, 1999)

Country Suites Hotel

This project is located east of Marguerite Parkway and west of the Foothill Transportation Corridor ramp at Los Alisos Boulevard. The project consists of a 118 room hotel. The project was approved by the City in December 1998 and is currently under construction. Occupancy of the hotel is expected in January 2000. (Letter from City of Mission Viejo dated 10-12-99)

Shea Properties

This proposed project is located east of Marguerite Parkway and west of the Country Suites Hotel at 28401 Los Aliso Boulevard. The project includes 230 apartment units. The project was approved by the City in August 1998 and is currently under construction. The project should be ready for occupancy by May 2000. (Letter from City dated 10-12-99)

Acero Street Office Project

This project is located on Acero Street in Mission Viejo. The project includes 225,000 square feet of office space. The project developer is currently discussing this project with the City. Should the project be approved by the City, project occupancy is anticipated to occur in January 2001. (Letter from City dated 10-12-99)

Heritage Villas Senior Housing

This project is located on the southeast corner of Oso Parkway and Country Club Drive at 26836 Oso Parkway. The project includes 143 senior housing units. The project was approved by the City in October 1998 and is under construction. The project should be ready for occupancy in April 2000. (Letter from City dated 10-12-99)

Camino Capistrano Mini-Storage

This project is located on 4.79 acres of land on Camino Capistrano, northerly of Crown Valley Parkway. The project includes 107,108 square feet of mini-storage space with a caretaker residence. The project is currently being considered by the City, with City action scheduled in October 1999. The project is scheduled for completion in February 2001. (Letter from City dated 10-12-99)

Legacy Partners Office Building

This project is located at 27101 and 27201 Puerta Real Street in Mission Viejo. The project consists of 232,000 square feet of office space in two separate buildings. The project was approved by the City in June 1999. Preliminary site work has begun on this project. The project is scheduled for completion in October 2000. (Letter from City dated 10-12-99)

Mission Viejo Mall Expansion

The Mission Viejo Mall has been expanded to include an additional 500,000 square feet of commercial space. The project was approved by the City in 1997, with build out expected in June 2000. The Mall has already been expanded by 250,000 square feet, with new Nordstrom and Saks 5th Avenue stores opened in Summer 1999. (Letter from City dated 10-12-99)

Lexus Auto Dealership

This project is located north of Avery Parkway and east of Marguerite Parkway at 28242 Marguerite Parkway. The project consists of a 38,164 square foot auto dealership. The project was approved in June 1998, with the project scheduled for completion in September 2000. (Letter from City dated 10-12-99)

5.3.3 Transportation Land Use Projects

The projects related to transportation land use includes infrastructure improvement, airport expansion, a proposed high speed rail system, and a regional transit system being proposed by the Orange County Transit Authority. An overview of these projects, including identification of jurisdiction, are included in Table 5.3-4.

5.3.3.1 I-405/SR-55 HOV Access Improvements Project

Significant traffic congestion occurs along portions of Interstate 405 (I-405), State Route 55 (SR-55), and Bristol Street in the vicinity of the City of Costa Mesa, which impacts both regional mobility and local access. To reduce congestion and encourage the use of buses and high occupancy vehicles (HOV), the Orange County Transportation Authority (OCTA) has developed the I-405/SR-55 Transitway Project. Elements of the Transitway Project include:

- i) Direct HOV connector ramps between I-405 and SR-55
- ii) Access improvements along I-405
- iii) HOV drop-ramps at Bear Street
- iv) HOV drop-ramps at Von Karman Avenue

The focus of the project is construction of access improvements along I-405 in the City of Costa Mesa between Bristol Street and SR-55. A project to construct direct HOV connector ramps between I-405 and SR-55 was initiated in 1993 by OCTA under the "Measure M" freeway program, following approval of a Project Report (OCTA, 1993) and supported by the California Department of Transportation. The project is scheduled to begin construction in November 1999. (Caltrans, 1999)

5.3.3.2 Alton Parkway Extension

Alton Parkway is proposed as a major arterial highway with a 120-foot wide cross section, providing 6 travel lanes and a 14-foot median. The proposed 2.17-mile extension of Alton Parkway, from Irvine Boulevard to the Foothill toll road (FTR), is within the North El Toro Regional Circulation Area (County of Orange) and is part of the Foothill Circulation Phasing Program (FCPP). A portion of this proposed extension passes along the eastern boundary of the MCAS El Toro site. Although construction of the extension is not part of the Proposed Project, conveyance of right-of-way for this future FCPP improvement is planned as part of the Proposed Project. The proposed extension of Alton Parkway, along the eastern boundary of the MCAS El Toro site and through a portion of Lake Forest are the only unfinished segments of this master planned arterial. These proposed extensions are an important component of the FCPP. The FCPP is designed to phase and coordinate road development with building permits in southeast Orange County.

**Table 5.3-4
Reasonably Foreseeable Probable Future Projects Related Transportation Land Use Projects**

Project	Jurisdiction	Open Space	Residential	Commercial	Industrial	Transportation	Other	Brief Project Description And Building Inventory	Proposed	Approved	Pre-design	In Progress	Complete	Comments
I-405/SR-55 HOV Access Improvements Project	Caltrans					X		Construction of access improvements within the City of Costa Mesa to include: <ul style="list-style-type: none"> • Direct HOV connector ramps between I-405 and SR-55 • Access improvements along I-405 • HOV drop-ramps at Bear Street • HOV drop-ramps at Von Karman Avenue 		X	X	X		Construction to begin November 1999.
Alton Parkway Extension	County of Orange					X		Modification to Alton Parkway to include 120-foot wide cross section to provide 6 travel lanes and 14-foot median		X		X		Status Pending
Foothill Transportation Corridor (FTC) North and South	County of Orange					X		Approximately 30 mile connection between ETR Orange County inland foothills to I-5 near San Diego County. North Segment: in the vicinity of MCAS El Toro (~ 7.5 miles) South Segment: connects Oso Parkway to San Diego County line.		X		X		North segment completed April 1995.
LAX Expansion Project	City of Los Angeles					X		Expansion project for the LAX to provide medium- and long-range air transportation services through the following: <ul style="list-style-type: none"> ▪ new terminal ▪ 4 new concourses ▪ automated people mover system ▪ new cargo facilities ▪ redevelopment of the Century Cargo Complex. Alternative 1: <ul style="list-style-type: none"> • new additional north runway • relocation of 3 existing runways • reconfiguration of north central terminal area Alternative 2: <ul style="list-style-type: none"> • 2 new runways • a new concourse 	X					No environmental documentation prepared to date.
Proposed High Speed Rail Project	Southern California Association of Governments (SCAG)					X		\$6.2 billion project funded through Project California's private consortium (no public operating subsidy) to improve linkages to and between airports. <ul style="list-style-type: none"> • Core System to connect Riverside, Orange, and Los Angeles counties along I-5 from MCAS El Toro site to Anaheim, Union Station, and Palmdale through ETC to SR-91 and Riverside. • Statewide System to connect in Palmdale and at Union Station in Los Angeles 	X					

5.3.3.3 Foothill Transportation Corridor (FTC) North and South

The FTC connects with the eastern leg of the ETC in Orange County's inland foothills and is ultimately planned to connect with I-5 near the San Diego County border. The total length of the FTC is approximately 30 miles, divided into the North and South Segments. The North Segment is in the vicinity of the MCAS El Toro site. Construction began on the North Segment in November 1990. The first section from Portola Parkway North to Portola Parkway South opened on October 16, 1993. The second section, which extended the FTC south to Antonio Parkway, opened on April 7, 1995. The completed section of the FTC is approximately 10.2 miles long. Construction of the section north of Portola Parkway North began in 1995 and is complete. The South Segment of the FTC from Oso Parkway to the San Diego County line is undergoing environmental review (TCA, 1999).

5.3.3.4 Los Angeles International Airport Expansion Project

The City of Los Angeles proposes to expand the Los Angeles International Airport (LAX). New features would include a new terminal and four new concourses, an automated people mover system, new cargo facilities, and redevelopment of the Century Cargo Complex. Two alternatives are also being proposed. Alternative 1 would include a new runway to the north, relocation of three existing runways, and reconfiguration of the north central terminal area. The second alternative would include the construction of two new runways and a new concourse. Environmental review is pending.

5.3.3.5 Proposed High Speed Rail Project

A high-speed rail system is proposed by the Southern California Association of Governments (SCAG) on several freeway rights-of-way with limited stations to improve linkages to and between the region's airports. The core system would connect Riverside, Orange, and Los Angeles counties along I-5 from the MCAS El Toro site to Anaheim, Union Station, and Palmdale, as well as from the MCAS El Toro site through the Eastern Transportation Corridor to SR 91 and Riverside. This rail system also would connect with the statewide high-speed rail system in Palmdale and at Union Station in downtown Los Angeles. It would be constructed and operated through Project California, a private consortium, at a cost of \$6.2 billion, on public right-of-way, with no public operating subsidy.

5.3.3.6 Orange County Transit Authority Transit Project

A transit project between the Fullerton Transportation Center and the Irvine Transportation Center is currently being studied by the OCTA. The project could use a combination of at grade as well as elevated transit ways. An EIR was released in September, 1999, for public review and comments. The OCTA has decided to pursue further environmental analysis on the 28 mile Fullerton to Irvine Centerline, and to complete a supplemental environmental

analysis on the full 28 miles. In addition, environmental analysis will be prepared for the first phase minimum operating segment from Irvine to Costa Mesa. The OCTA Board will address the issue of preparing preliminary engineering and final environmental analysis in Summer of 2000.

5.3.4 Other Land Use Projects

Several projects fall outside the categories referred to previously, but are significant for evaluation under cumulative impact analysis. These projects are outlined in Table 5.3-5.

5.3.4.1 Natural Community Conservation Plan

The Natural Community Conservation Plan (NCCP) provides the planning framework to preserve natural biotic communities in Orange County. Since the Orange County Board of Supervisors has approved the reserve design, it helps establish a geographic context of preserved open space, which assists in determining the cumulative impacts of individual project actions.

In early 1991, the California State Resources Agency developed a concept for a multiple species habitat conservation plan. This pilot plan, which focuses on coastal sage scrub habitat, was developed in collaboration with a number of landowners. A primary element of the plan was establishment of a Scientific Review Panel (SRP), composed of five conservation biologists, which was to develop and oversee data collection procedures and to formulate regional and subregional goals and criteria for future reserves. Local jurisdictions are responsible for developing local area NCCPs to be approved by the United States Department of the Interior, Fish and Wildlife Service (USFWS). A number of Orange County landowners and the County of Orange assembled data collected in 1992 on coastal sage scrub species, according to guidelines released by the SRP in December 1991, and developed the Orange County NCCP. A total of approximately 78,600 acres are enrolled countywide by public and private landowners, compared to a total area of 393,655 acres in southern California south of metropolitan Los Angeles.

The Reserve Design, which is the essential premise of the NCCP and identifies lands to be set aside, was prepared on April 22, 1994 which included special provisions for the Central Coastal Subarea in Orange County. The NCCP was adopted by the County of Orange in April 1996 upon certification of its EIR for the project, which was not challenged in court. The federal and state governments, various municipalities and landowners entered into an implementation agreement for the NCCP shortly thereafter. In general, the Central subarea Reserve Design incorporated committed open space along with areas contemplated as open space in conjunction with the approval of certain development projects in other areas. This

**Table 5.3-5
Reasonable Foreseeable Probable Future Projects Other Related Land Use Project**

Project	Jurisdiction	Open Space	Residential	Commercial	Industrial	Transportation	Other	Brief Project Description And Building Inventory					Comments
								Proposed	Approved	Pre-design	In Progress	Complete	
Central/Coastal Natural Community Conservation Plan	County of Orange	X					X					X	Approved in 1991 On-going
MCAS Tustin Reuse Plan	City of Tustin		X	X	X							X	EIR/EIS to be considered for approval in early 2000
James A. Musick Facility	County of Orange						X			X			Approved by the County in October 1998 – currently under litigation

open space system has been augmented by adding reserve areas known to contain substantial populations of the California gnatcatcher and cactus wren, and to provide linkages of natural habitat. The Reserve Design incorporates over 21,000 acres of coastal sage scrub and its matrix of other associated habitats, including lands necessary for connectivity (i.e. contiguous open space to promote genetic exchange). Existing, planned and/or proposed regional open space lands in the Central Subarea include a total of 8,379 acres of coastal sage scrub in Weir Wilderness Park, Santiago Oaks Regional Park, Irvine Regional Park, Open Space Area 31 in Gypsum Canyon, Peters Canyon Regional Park, the Loma Ridge open Space system, miscellaneous open space associated with the East Orange Planned Community and Limestone-Whiting Wilderness Park. These areas are generally northwest, north and northeast of the MCAS El Toro site. A 998-acre habitat reserve has been identified on the MCAS El Toro site in the Reserve Design. This 998-acre habitat reserve would partially implement the adopted NCCP in Orange County as it is a portion of the total reserve design for the subarea. Also, see the discussion in Section 4.9 (Biological Resources) for more information on the NCCP.

The County is currently in the process of preparing a Southern Region NCCP which will cover additional lands in South County. The area covered by this plan will be added to the previously approved Central Coastal HCCP and provide additional land for the preservation of natural biotic communities in Orange County.

5.3.4.2 MCAS Tustin Reuse Plan

The City of Tustin has conducted comprehensive planning for future reuse of the MCAS Tustin facility, which has been identified for closure by the Federal government. A Reuse Study has been completed which identifies a long-range land use and transportation plan for redevelopment of the Base. A task force of elected officials and representatives from various area jurisdictions assisted in the planning process and adopted a conceptual land use plan. This plan shows a variety of uses including residential, commercial, office and industrial uses. The City identified a Preferred Alternative, the Local Reuse Alternative (LRA) for the reuse of the Base that addresses issues, opportunities and constraints associated with the site and that attempts to be practical in economic terms and to respond to future opportunities (City of Tustin, 1999a).

A joint Environmental Impact Report/Environmental Impact Statement (Final EIR/EIS) for the reuse of MCAS Tustin is scheduled to be completed in February 2000. The federal government is currently scheduled to consider formal approval of the MCAS Tustin Reuse Plan in early 2000. The City Council of the City of Tustin will consider approval of a specific Plan for the site at that time (City of Tustin, 1999b).

5.3.4.3 James A. Musick Facility

The James A. Musick Facility is a County-operated detention facility located southeast of the future extension of Alton Parkway and northwest of existing Bake Parkway, in unincorporated Orange County. The facility is in the sphere of influence of the City of Irvine, and is immediately adjacent to the City of Lake Forest. The municipal boundary of the City of Irvine borders the property on the south/southwest.

The James A. Musick facility is being considered for expansion to 7,584 inmates, with a full range of classifications, from minimum to maximum-security. Inmate bookings and releases are proposed to be handled at the facility for a full classification of inmates to assist in handling a shortfall in capacity for incarceration facilities in Orange County. This project is proposed to include a 20,000 sq. ft. Sheriff's Station on the site, and could include an Interim Care Facility (ICF) in an area adjacent to the substation. The Sheriff's Station would provide improved law enforcement services to the area. The ICF is a residence facility operated by the County Mental Health Board for young people unable to function in a foster or group home or Juvenile Hall due to emotional or psychiatric instability. The youths are confined in the home and are not free to come and go.

Alton Parkway will be extended northeast from Irvine Boulevard/Trabuco Road to the site entrance. Although the Musick Drive entrance may still be used for inmate buses and deliveries, the primary traffic impact of the facility, staff and visitor access will be absorbed on the Alton Parkway extension. Bake Parkway will be used to access the Sheriff's Station. The County originally approved the project in November 1996 and re-approved in October 1998. However, the project is in litigation at this time (Orange County, 1999a).

5.3.5 Non-Planned Land Use Projects

A general assessment was made as part of FEIR No. 563 of areas currently designated for agricultural and open space uses, which are adjacent to the MCAS El Toro site and within the PIL. These areas are referred to as non-planned areas. It is conceivable that these areas could convert to other uses regardless of the disposition of MCAS El Toro. Land uses anticipated to be developed between the year 2005 and year 2020 were included as future prospects in the OCP-96M. Land uses anticipated to be developed beyond the year 2020 were previously estimated by the Irvine Company. According to the Irvine Company, potential land uses for these areas may include residential, industrial and institutional uses. However, at the time specific project proposals are submitted for consideration, environmental documentation must be prepared for these projects.

5.4 CUMULATIVE IMPACTS BY RESOURCE AREA

This section analyzes potential cumulative impacts to the environment that could be associated with implementation of the Proposed Project in concert with cumulative development and growth, including the above-listed past, present, and reasonably foreseeable future projects. For the cumulative impact analysis, OCP-96M was used to assess population, housing and employment projections for the MCAS El Toro and JWA site vicinities, as well as surrounding areas of the County. The County reviewed and determined that the cumulative projects were included in OCP-96M. These data then were used to evaluate the potential for cumulative impacts as a result of implementing the Proposed Project. See Table 5.4-1 for a summary of cumulative impacts by resource areas.

The threshold of significance used to determine whether the cumulative projects considered would create a significant impact on the environment was taken from the CEQA Environmental Checklist, and is as follows:

- (i) *Does the project have impacts that are individually limited but cumulatively considerable? Cumulatively considerable means that the incremental effects of an applicable project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects*

The threshold of significance for each impact category is provided separately below.

5.4.1 Potential Cumulative Impacts Related to Land Use

The threshold of significance used to determine cumulative land use impacts is as follows:

- (i) Does the project have land use impacts that are individually limited, but cumulatively considerable?

5.4.1.1 Cumulative Impacts

FEIR No. 563 found that the CRP project would have significant unavoidable adverse cumulative land use impacts because it would add to the overall urbanization of Orange County and the area around MCAS El Toro. However, under the Proposed Project, the non-aviation land uses have been reduced substantially in intensity, as compared to the CRP, consisting now primarily of parks, open space, and golf courses, and approximately 87 acres of business park development (Table 3-7). Under existing conditions, approximately 2,130 acres of land are devoted to open space land uses, including agriculture, golf course, recreation, restricted open space, and the open space surrounding the ordnance storage and disposal site. Under the Proposed Project condition, approximately 2,056 acres of land

**Table 5.4-1
Cumulative Impacts With Cumulative and Proposed Projects**

Project	Land Use	Transportation & Circulation	Noise	Air Quality	Topography	Geology and Soils	Water Quality	Biological	Public Service/Utilities	Natural Resources/Energy	Aesthetics	Cultural Resources	Recreation	Public Health & Safety	Hazardous Materials	Socioeconomic
405/SR-55 HOV Access Improvements																
Amendment 891		U	U	U			U			U				U		
A.J. West Ranch				YES												
Alton Parkway Extension				YES												
Baker Ranch Park				YES												YES
Camino Capistrano Mini-Storage				YES												
Country Suites Hotel		YES		YES												
Conerant Expansion Project		YES		YES			YES									
Foothill Aliso Commercial Center				YES												YES
Foothill Ranch Planned Community				YES												
Foothill Transportation Corridor				YES												
GPA/Zone Change for 440 Acres South of MCAS El Toro		YES ¹		YES ¹			YES ¹			YES ¹						YES ¹
Heritage Villas Sr. Housing				YES												
High Speed Rail (SCAG)										YES						
Holtze Extended Stay Hotel and Office Project				YES												
Home Depot Center		YES		YES												YES
James A. Musick Facility		YES		YES						YES						
Koll Center Expansion		U	U	U			U			U				U		U
LAACO Project				YES												
LAX Expansion Project		U	U	U			U			U				U		YES
Legacy Partners Office Bldg.				YES												YES

¹ These projects are not compatible with and would not be constructed with the Proposed Project, and thus the Proposed Project causes no cumulative impacts with these competing alternative projects.

Legend

- No significant impact after mitigation
- YES - Unavoidable potentially significant adverse impact
- U - Unknown

Project	Land Use	Transportation & Circulation	Noise	Air Quality	Topography	Geology and Soils	Water Quality	Biological	Public Service/Utilities	Natural Resources/Energy	Aesthetics	Cultural Resources	Recreation	Public Health & Safety	Hazardous Materials	Socioeconomic
Lower Peters Canyon Specific Plan				YES			YES			YES						
MacArthur Place				YES												
Mammoth Equities Project				YES												
MCAS Tustin Reuse Plan				YES			YES									
Mission Viejo Mall Exp.				YES												YES
Moulton Parkway Commercial Development		YES		YES												YES
Natural Community Conservation Plan																
Nexus Twin Towers				YES												YES
North Irvine Middle School				YES						YES						
Northwood High School				YES						YES						
Oak Creek Project				YES			YES			YES						
OCTA Centerline				YES												
One Hutton Center				YES												YES
Painted Trails				YES												
Portola Hills Planned Community				YES			YES									
Revised PAS 51, 35 & 30, Annexation, GPA, Pre-Zone, Zone Change		YES ¹	YES ¹	YES ¹			YES ¹	YES ¹		YES						
Rockwell Site Expansion				YES												YES
Saddleback Meadows				YES												
Saddleback Valley Church			YES	YES												
Sakioka Property				YES						YES						YES
Segerstrom Home Ranch				YES						YES						YES
Spectrum Housing GPA/2C		U	U	U			U	U		U				U		U

¹These projects are not compatible with and would not be constructed with the Proposed Project, and thus the Proposed Project causes no cumulative impacts with these competing alternative projects.

Legend

- No significant impact after mitigation
- YES - Unavoidable potentially significant adverse impact
- U - Unknown

Project	Land Use	Transportation & Circulation	Noise	Air Quality	Topography	Geology and Soils	Water Quality	Biological	Public Service/Utilities	Natural Resources/Energy	Aesthetics	Cultural Resources	Recreation	Public Health & Safety	Hazardous Materials	Socioeconomic
Stone Ridge		YES														
Shea Properties Apts.		YES		YES												
Town Centre		YES	U	U			U			U				U		U
West Park Project		YES								YES						
Unspecified Projects in Irvine ²		YES ²	YES ²	YES ²						YES ²						YES ²

²To the extent these impacts are attributable to alternatives to the Proposed Project, they do not constitute cumulative impacts with the Proposed Project.

Legend

- No significant impact after mitigation
- YES - Unavoidable potentially significant adverse impact
- U - Unknown

would be allocated to open space uses including agriculture, golf course, recreation, restricted open space, and habitat areas, which represent a one percent reduction in open space. However, the project would have a significantly beneficial cumulative impact because: (a) recreational uses would be increased and open to the public (i.e., golf courses, regional park); and (b) open space areas would be developed and maintained for habitat values, not for military uses. Under existing conditions, recreational uses were generally limited to military personnel with the exception of limited public access to the stables and golf course. Wildlife habitat areas were not managed for wildlife purposes and were not enrolled in programs such as the NCCP. In summary, the project would not add significantly to the urbanization, and the project recreation and open space components would mitigate, to a degree, the urbanization of cumulative development. Therefore, the Proposed Project would not have a significant adverse cumulative impact related to increased urbanization.

Similar to the FEIR No. 563 CRP project, under the Proposed Project, the land uses restricted by the military 65 CNEL dB PIL are anticipated to be converted to different, less restrictive uses for those portions where the PIL and the project 65 dB CNEL contour no longer overlap. Since the announced closure of MCAS El Toro, two proposals for conversion of land classified business park/town center commercial to residential uses have been considered by the Board of Supervisors. The Board denied a proposal for residential uses in the Portola Hills Planned Community, and approved a proposal to reallocate a maximum of 1,800 dwelling units to Planning Areas 40, 52, and 53 in the Aliso Viejo Planned Community. Note, however, that this was a reallocation of dwelling units from other planning areas, so there was no net increase in dwelling units. In addition, the City of Mission Viejo approved a reallocation of a maximum of 825 dwelling units to replace planned light industrial uses in Planning Area 11 in the Mission Viejo Planned Community. No other conversions of nonresidential uses to noise sensitive uses within the MCAS El Toro 65 dB CNEL contour have been approved.

There appear to be no additional sites where conversion of existing planned uses are contemplated south or east of the El Toro site. However, proposals for residential development are anticipated to the west and southwest of the El Toro site in the City of Irvine's Planning Area 33 (approximately 1,200 dwelling units), Planning Area 6 (approximately 5,780 dwelling units), and Planning Area 9 (approximately 8,900 dwelling units) as a result of the conversion of MCAS El Toro to civilian uses and the proposed changes in the 65 dB CNEL contour PIL. These conversions are also a result of the proposed reduction in the land affected by the military runway protection zones (i.e., APZ I and APZ II) compared to the proposed project safety zones. The reduction in the runway protection zone area permits residential uses where the land is also outside the OCX 65 dB CNEL contour, or an intensification of commercial and industrial occupancies (e.g., Baker Ranch Planned Community) where the land would be within the OCX 65 dB CNEL contour. Intensification is anticipated in Planning Areas 13, 32 to 35, and 39 in Irvine and Baker Ranch in the City of Lake Forest. However, no change in the land use is anticipated. The net increase in residential development in Planning Areas 6, 9, and 33 is, however, unknown at this time because of the preliminary information available. That is, it is unknown if these

dwelling units represent increases in the City of Irvine's General Plan, the County's General Plan, or the OCP-96M residential allocations, or if these dwelling units are reallocations of dwelling units from other planning areas or community analysis areas. According to preliminary information, the residential units would be (a) reallocated within the OCP-96M forecasts and (b) located outside the OCX 65 dB CNEL contour and runway protection zones. The residential units would require General Plan and zoning amendments and related CEQA documents. The County and City General Plans include Growth Management Elements, public services and facilities phasing policies, ordinances, and land use standards which, when applied to development proposals, are anticipated to reduce land use impacts to a level of insignificance.

The Irvine General Plan includes post-2020 development (Table 5.3-3) not included in the year 2020 OCP-96M. However, this development is not allocated to specified projects; therefore, the land use impacts, if any, are speculative for purposes of this section.

5.4.1.2 Conclusions

Portions of the existing agricultural uses will be retained on the MCAS El Toro site as part of the Proposed Project. Agricultural uses are compatible with the proposed aviation and non-aviation uses. Therefore, there will be no significant cumulative impacts of the Proposed Project from agricultural operations. Section 5.4.11 addresses potential cumulative impacts related to loss of farmlands.

In the JWA area, the Proposed Project would have no land use compatibility impacts since the service level at the airport would be reduced from the current level, and the surrounding area is almost fully developed. No reduction in the PIL is proposed. Therefore, the project would not result in cumulative impacts on land use.

In conclusion, (a) the project would result in fewer cumulative land use impacts than existing forecasts which are based on the CRP; (b) changes in the project since EIR No. 563 have reduced the cumulative impacts of the project on increased urbanization to a level of insignificance; and (c) the project would reduce off-site aircraft restrictions that would permit up to 15,880 dwelling units to be reallocated to Irvine Planning Areas 6, 9, and 33. These impacts are anticipated to extend adjacent land uses and, therefore, would not divide existing communities, result in land use incompatibilities, or impair emergency response plans.

5.4.2 Potential Cumulative Impacts Related to General Plan Consistency

The threshold of significance used to determine cumulative General Plan consistency impacts is as follows:

- (i) Does the project have General Plan consistency impacts that are individually limited, but cumulatively considerable?

5.4.2.1 Cumulative Impacts

Any effects of General Plan inconsistencies are either 1) direct effects, limited to the affected jurisdiction requiring a General Plan Amendment; or 2) indirect effects, which are generally secondary land use effects addressed in Section 4.1, Land Use, of this EIR. Implementation of the Proposed Project will require an amendment to several Orange County General Plan Elements at the time of project approval. These amendments will occur prior to project implementation or prior to development applications for off-site lands; therefore, there are no project related effects relating to General Plan consistency.

As analyzed in Section 5.4.1, the project would reduce the land area within the aircraft 65 dB CNEL contour and the runway protection zones (e.g., the Military Accident Potential Zones I and II) compared to the existing military AICUZ Study policies. This reduction would permit noise sensitive land uses to be proposed inside the military 65 dB CNEL contour PIL (but outside the OCX 65 dB CNEL contour) and would permit higher intensity occupancies (e.g., employees) at nonresidential uses within the military APZ I and APZ II zones (but outside the OCX safety zones). As noted in the previous section, the City of Mission Viejo and the County have approved residential reallocations in (respectively) Mission Viejo Planned Community Planning Area 11 and Aliso Viejo Planned Community Planning Areas 40, 52, and 53 within the military 65 dB CNEL contour PIL, but outside the OCX 65 dB CNEL contour PIL.

These approvals (and the denial of the Portola Hills Planned Community proposal) appear to represent the extent of conversions of land uses to the south and east of the El Toro site. However, the City of Irvine has initiated a proposal to permit approximately 1,200 dwelling units in Planning Area 33, and applications are anticipated for up to 5,780 dwelling units in Planning Area 6 and approximately 8,900 dwelling units in Planning Area 9 of the Irvine General Plan, which are located within the military 65 dB CNEL contour PIL. In addition, development applications are anticipated in Irvine Planning Areas 13, 32 to 35, and 39, and for Baker Ranch in Lake Forest to intensify occupancies within the former military APZ I and APZ II. These proposals would require amendment of the AELUP and the City and/or County General Plans to replace the military PIL and APZ I and APZ II policies with the OCX 65 dB CNEL contour and OCX runway protection zones.

5.4.2.2 Conclusions

The City and County General Plans include Growth Management Elements, policies, and development standards that will ensure that development proposals are compatible with the respective General Plans. In addition, each project will be required to comply with CEQA. Based on these facts, no significant cumulative impact is anticipated regarding General Plan consistency.

5.4.3 Transportation and Circulation

The threshold of significance used to determine cumulative transportation and circulation impacts is as follows:

- i) Does the project have transportation and circulation impacts that are individually limited, but cumulatively considerable?

5.4.3.1 Cumulative Analysis Methodology and Results

Section 4.3 includes a cumulative analysis of the traffic impacts of the project and OCP-96M development forecasts for the County. Refer to Section 4.3 for the year 2020 cumulative effects.

Comments on the NOP (e.g., pg. 805, No. 6) request that this EIR analyze the traffic impacts of development which exceeds OCP-96M. In response, the following analysis was completed of an intensified land use scenario for the vicinity of the El Toro site and JWA. To avoid conflict with the adopted OCP-96M forecasts, the scenario is designated “post-2020.” The post-2020 cumulative setting also analyzes full development of the Proposed Project and its associated site access plan, as well as implementation of the circulation system improvements which are necessary to mitigate the year 2020 traffic impacts. The traffic conditions are analyzed herein based on the Table 5.1-2 in the traffic analysis study area (Figure 4.3-1).

The analysis involved preparing vehicle traffic forecasts and levels of service which were utilized to identify circulation deficiencies. A traffic shares analysis was then performed for each location where non-committed improvements are required (for example, according to the MPAH) or where deficiencies are forecast in order to identify those locations that would carry a significant amount of project traffic under cumulative post-2020 conditions (refer to Section 15.0 in the 1999 Traffic Analysis Technical Report for detailed summaries of the traffic volumes, levels of service and traffic shares for intersections and arterial roadways within the traffic analysis study area and Section 15.0 in the 2001 Traffic Analysis Technical Report Addendum for detailed summaries of the traffic volumes, levels of service and traffic shares for freeway/transportation corridor mainline segments and ramps within the traffic analysis study area).

Table 5.4-2 summarizes the non-committed but planned Master Plan of Arterial Highways improvements for the locations that are forecast to carry a significant amount of project traffic. Table 5.4-3 summarizes unplanned improvements which, if implemented, would improve the levels of service at the locations which are forecast to operate deficiently and to carry a significant amount of project traffic.

Mitigation measures are presented below identifying the project's responsibility to participate in the long-range implementation of these non-committed circulation improvements which are either currently planned or which are needed to address deficiencies at locations where the project is forecast to contribute significant levels of traffic.

In conclusion, all the post-2020 impacts can be accommodated by the existing Master Plan of Arterial Highways except 1) Moulton Parkway from Ridge Route to Glenwood and 2) Laguna Canyon Road from Bake Parkway to Santa Maria. The project impact on these highway segments is 3% and 4%, respectively, and the improvements would be required without the project.

With the exceptions of Moulton Parkway (Ridge Route to Glenwood) and Laguna Canyon Road (Bake Parkway to Santa Maria), the planned and unplanned improvements shown in Tables 5.4-2 and 5.4-3 will be implemented as development projects are entitled by the County and Cities per their General Plans. The County and City Growth Management Plans, and Measure M/CMP require that conditions be applied to projects, fee programs be established, and/or public works programs be amended as growth and development proceed to meet Measure M/CMP and General Plan level of service policies. Therefore, no new or additional ordinances, regulations or conditions of approval would be required to implement the improvements with the two exceptions noted. Mitigation measures are proposed to ensure that the post-2020 impacts are addressed.

5.4.3.2 Mitigation Measures For Post 2020 Impacts

T-12 Prior to issuance of the first building permits for each phase of the Airport System Master Plan development, the County will determine if the phase's traffic plus cumulative development traffic requires any improvement listed in Tables 5.4-2 and 5.4-3. If any improvement is required, the County will enter into a cooperative agreement with the lead local jurisdictions responsible for the cumulative development impacts to participate on a fair share basis in the implementation of the planned and unplanned long-range circulation improvements listed in Table 5.4-2 and 5.4-3. The agreements will commit the County to participate in the implementation process (i.e., the establishment of funding mechanisms, the preparation of design plans, the performance of feasibility assessments, etc.) based on the project fair share percentages identified in Tables 5.4-2 and 5.4-3. Where the County is the lead, the County will prepare cooperative agreements and use its best efforts to obtain fair share participation by non-lead local jurisdictions.

**Table 5.4-2
Post-2020 Non-Committed, Planned (MPAH) Improvements**

Location	Jurisdiction	Improvement	Project Share
FREEWAY/TRANSPORTATION CORRIDOR IMPROVEMENTS			
Eastern Toll Road (ETR) East Leg (SR-91 to ETR West Leg)	Caltrans and TCA, Planned (MPAH)	Convert to a toll-free facility and improve to provide two high occupancy vehicle (HOV) lanes	6%
ETR East Leg (ETR West Leg to I-5)	Caltrans and TCA, Planned (MPAH)	Convert to a toll-free facility and improve to provide two HOV lanes and interchanges at Culver Dr. and Jeffrey Rd.	13%
I-405 at Von Karman	Caltrans	Construct HOV ramps	5%
ARTERIAL IMPROVEMENTS			
Aliso Creek (Laguna Canyon to El Toro)	County	Construct as four-lane secondary arterial	2%
Culver (ETR to Santiago Canyon)	County	Construct as six-lane major arterial	2%
Irvine (PA2 East Access Rd to Alton)	County	Improve to six-lanes	32%
Jeffrey (ETR to Santiago Canyon)	County	Construct as four-lane primary arterial	3%
Jeffrey (Irvine to Portola)	County	Improve to six-lanes	6%
Jeffrey (Portola to ETR)	County	Construct as four-lane primary arterial	3%
Portola (FTR to Alton)	County	Construct as four-lane primary arterial	3%
Santa Maria (west of Moulton to Laguna Canyon)	County/ Laguna Hills	Construct as four-lane secondary arterial	2%
Trabuco (Jeffrey to Sand Canyon)	County	Improve to four-lanes	10%
Irvine (Yale to Jeffrey)	County/Irvine	Improve to six-lanes	7%
Portola (Culver to Jeffrey)	County/Irvine	Improve to six-lanes	7%
Portola (ETR to Culver)	County/Irvine	Improve to six-lanes	4%
Sand Canyon (Irvine to I-5)	County/Irvine	Improve to six-lanes	14%
El Toro (Aliso Creek to SJHTC)	County/ Caltrans Laguna Beach	Improve to six-lanes	2%
Portola (FTR to El Toro)	County/ Lake Forest	Improve to eight-lanes	2%
Chapman (Jamboree to Santiago Canyon)	County/ Orange	Improve to six-lanes	3%
Bake (Lake Forest to Laguna Canyon)	Irvine	Construct as six-lane major arterial	3%
(Old) Laguna Canyon (Alton to Lake Forest)	Irvine	Improve to four-lanes and realign to Lake Forest Dr	1%
Laguna Canyon (I-405 to Lake Forest)	Irvine	Improve to six-lanes	4%
Lake Forest (Bake to Laguna Canyon)	Irvine	Construct as four-lane primary arterial	2%
Michelson (Sand Canyon to Laguna Canyon)	Irvine	Construct as four-lane secondary arterial	1%
Sand Canyon (I-5 to Oak Canyon)	Irvine	Improve to six-lanes	15%
Sand Canyon (I-405 to Michelson)	Irvine	Construct as six-lane major arterial	1%

Location	Jurisdiction	Improvement	Project Share
ARTERIAL IMPROVEMENTS (cont)			
University (Michelson to I-405)	Irvine	Improve to six-lanes	5%
Yale (I-405 overcrossing)	Irvine	Construct two-lane overcrossing	5%
Ridge Route (west of Moulton to Bake)	Irvine/ Laguna Hills	Construct as four-lane secondary arterial	4%
Ridge Route (I-5 overcrossing)	Laguna Hills/ Laguna Woods/ Lake Forest	Construct four-lane overcrossing	6%
Ridge Route (Moulton to Avd. Carlota)	Laguna Hills/ Laguna Woods	Improve to four-lanes	1%
Los Alisos (Muirlands to Avd. Carlota)	Laguna Hills/ Lake Forest/ Mission Viejo	Improve to six-lanes	4%
El Toro (north of Trabuco)	Lake Forest	Improve to six-lanes	4%
El Toro (Trabuco to I-5)	Lake Forest	Improve to eight-lanes	5%
Chapman (west of Newport)	Orange	Improve to six-lanes	1%
Jamboree (Tustin Ranch to Chapman)	Orange/ Tustin	Improve to six-lanes	2%
Irvine (Prospect to Newport)	Tustin	Improve to six-lanes	2%
Red Hill (north of Bryan to El Camino Real)	Tustin	Improve to six-lanes	2%
INTERSECTION IMPROVEMENTS			
Culver & Michelson	Irvine	Add second NB left-turn lane	1%
Jamboree & Michelson	Irvine	Add third WB and EB through lanes and free NB right-turn lane	3%
Bake & Irvine/Trabuco	Irvine/ Lake Forest	Add third NB through lane	17%
Prospect & Irvine	Tustin	Add second SB left-turn lane	1%
Abbreviations: NB – northbound EB – eastbound SB – southbound WB – westbound			

**Table 5.4-3
Post-2020 Unplanned Mitigation Improvements**

Location	Jurisdiction	Improvement	Project Share
DEFICIENT INTERSECTIONS			
Aliso Creek & Laguna Hills	County	Convert WB shared second left-turn/third through lane to second left-turn lane, add third WB through lane and eliminate east-west split phasing	2%
Laguna Canyon & Santa Maria	Caltrans/ Laguna Woods	Add third NB through lane	4%
Moulton & Glenwood	County	Add fourth NB through lane	3%
Moulton & Laguna Hills	County	Add fourth NB through lane	3%
Culver & Michelson	Irvine	Add second EB through lane	1%
Irvine Center & Bake	Irvine	Add fourth NB through lane	4%
Jeffrey & Alton	Irvine	Add third EB and WB through lanes	4%
Jeffrey & Irvine Center	Irvine	Add free WB right-turn lane	4%
Jeffrey & Walnut/I-5 SB	Irvine	Convert WB through lane to shared through/second right-turn lane	3%
Laguna Canyon & Bake	Caltrans/Irvine	Add third SB through lane	3%
Sand Canyon & I-5 NB Ramps	Irvine	Convert EB left-turn lane to shared second left-turn/second right-turn lane [1]	
Sand Canyon & Irvine Center	Irvine	Add fourth WB through lane	11%
Sand Canyon & Oak Canyon	Irvine	Reconstruct WB approach to provide a left-turn lane, a right-turn lane and a shared through/second right-turn lane	14%
Technology & Barranca	Irvine	Add SB right-turn lane and convert second SB through lane to shared second through/second right-turn lane	2%
Von Karman & Michelson	Irvine	Add third SB through lane and second SB left-turn lane	3%
Yale & Irvine	Irvine	Add second SB and EB left-turn lanes	4%
Yale & Walnut	Irvine	Add second EB left-turn lane	3%
Bake & Jeronimo	Irvine/ Lake Forest	Add second NB left-turn lane	9%
Irvine Center & Lake Forest	Irvine/ Laguna Hills	Add fourth NB through lane	3%
Lake Forest & Avd. Carlota	Irvine/ Laguna Hills	Convert second WB right-turn lane to shared second left-turn/second right-turn lane and add second EB right-turn lane and NB right-turn lane	3%
El Toro & Avd. Carlota	Laguna Hills	Convert NB right-turn lane to shared fourth through/right-turn lane and convert WB through lane to shared through/second right-turn lane	4%
Moulton & Alicia	Laguna Hills	Add fourth NB through lane	3%

Location	Jurisdiction	Improvement	Project Share
DEFICIENT INTERSECTIONS (cont)			
Laguna Hills & Paseo Valencia	Laguna Hills/ Laguna Woods	Add EB right-turn lane and convert third EB through lane to shared third through/second right-turn lane	4%
Moulton & Ridge Route	Laguna Hills/ Laguna Woods	Add fourth NB and SB through lanes	3%
Moulton & Santa Maria	Laguna Hills/ Laguna Woods	Add fourth NB and SB through lanes	3%
El Toro & Jeronimo	Lake Forest	Add EB right-turn lane	6%
Los Alisos & Muirlands	Lake Forest/ Mission Viejo	Add second EB left-turn lane	4%
Alicia & Muirlands	Mission Viejo	Add second SB left-turn lane and SB, EB and WB right-turn lanes	4%
La Paz & Muirlands/I-5 NB	Mission Viejo	Add second NB left-turn lane	4%
Jamboree & Chapman	Orange	Add fourth NB through lane	2%
DEFICIENT ARTERIAL ROADWAYS			
Laguna Canyon (Bake to Santa Maria)	Caltrans/ County/Irvine	Improve to six-lanes	4%
Moulton (El Toro to Glenwood)	Laguna Woods	Improve to eight-lanes	3%
Moulton (Ridge Route to Santa Maria)	Laguna Hills/ Laguna Woods	Improve to eight-lanes	3%
Moulton (Santa Maria to El Toro)	Laguna Woods	Improve to eight-lanes	3%
DEFICIENT FREEWAY SEGMENTS			
I-5 (Lake Forest to south of La Paz)	Caltrans	Implementation of Caltrans Traffic Operations Strategies (TOPS)	4%-5%
I-405 (Jamboree to Jeffrey)	Caltrans	Implementation of Caltrans TOPS	11%
I-405 (Sand Canyon to SR-133)	Caltrans	Implementation of Caltrans TOPS	10%
SR-55 (north of Irvine/Fourth)	Caltrans	Implementation of Caltrans TOPS	4%
DEFICIENT FREEWAY/TRANSPORTATION CORRIDOR RAMPS			
I-5 at Alton (NB Direct On-Ramp)	Caltrans/Irvine	Add a third mixed-flow lane at the ramp meter	13%
I-5 at Sand Canyon (NB On-Ramp)	Caltrans/Irvine	Convert HOV preferential lane to a Add second metered mixed-flow lane	26%
I-5 at Sand Canyon (SB Off-Ramp)	Caltrans/Irvine	Add second drop lane from freeway mainline to off-ramp	16%
I-405 at Sand Canyon (NB Direct On-Ramp)	Caltrans/Irvine	Improve to a two-lane on-ramp with two mixed-flow lanes at the ramp meter	4%
I-405 at Sand Canyon (SB Off-Ramp)	Caltrans/Irvine	Add second drop lane from freeway mainline to off-ramp	2%
I-5 at El Toro (NB Loop On-Ramp)	Caltrans/ Lake Forest	Convert HOV preferential lane to a Add second metered mixed-flow lane	4%
I-5 at Lake Forest (NB Off-Ramp)	Caltrans/ Lake Forest	Add second drop lane from freeway mainline to off-ramp	2%
ETR East Leg (SR-241) at Santiago Canyon (SB On-Ramp)	Caltrans/TCA/ County	Provide three mixed-flow lanes at the on-ramp meter	2%
ETR East Leg (SR-241) at Santiago Canyon (NB Off-Ramp)	Caltrans/TCA/ County	Add second drop lane from ETR mainline to off-ramp	7%
Abbreviations: NB – northbound EB – eastbound SB – southbound WB – westbound			

[1] Only required with the Trabuco Road/ETR interchange option.

T-13 Prior to issuance of the first building permits for the Airport System Master Plan Development, the County will use its best efforts to obtain a cooperative agreement with the applicable lead jurisdictions to process amendments to the Orange County Master Plan of Arterial Highways (MPAH) as appropriate through the Orange County Transportation Authority (OCTA) for the unplanned long-range circulation improvements listed in Table 5.4-3 [i.e., Moulton Parkway and Laguna Canyon Road] with the County's participation in the MPAH process being based on the project fair share percentages identified in Table 5.4-3.

Implementation of the proposed ~~These~~ mitigation measures are, in whole or in part, within the responsibility and jurisdiction of another public agency or entity. Should these other entities not implement the mitigation measures, the relevant project impacts may remain significant after mitigation.

Note: Pursuant to CEQA Guidelines Section 15091(a)(2), portions of these measures are within the responsibility and jurisdiction of another public agency, and not the County of Orange.

5.4.3.3 Conclusions

The potential cumulative traffic impacts of the Airport System Master Plan Proposed Project would be reduced to below a level of significance based on the implementation of mitigation measures included in Section 4.3. For the post 2020 conditions, the impacts of cumulative development would be reduced to a level of insignificance with Mitigation Measures T-12 and T-13. In the event that Traffic Operations Strategies (TOPS) improvements are not implemented, or if such improvements fail to mitigate the identified impacts to below a level of significance, the freeway/tollway mainline cumulative impacts will remain significant and unavoidable. Regarding off-site highway improvements that are not under the sole control of the County and are subject to the implementation procedures described in Mitigation Measure T-12, in the event such off-site improvements are not implemented by the jurisdiction in which the improvements are located, the cumulative impacts at those unimproved locations will remain significant and unavoidable.

5.4.4 Potential Cumulative Impacts Related to Noise

5.4.4.1 Aviation Noise Impacts

The project noise analysis (Section 4.4) indicated that the Proposed Project would not result in significant impacts on existing and cumulative OCP-96M noise sensitive land uses by reference to traditional and generally accepted 65 dB CNEL contour significance criterion. However, the development of a civilian airport at MCAS El Toro would result in a significantly greater number of airplanes approaching/departing OCX and operations during nighttime hours compared to when the MCAS El Toro was used as a military airport. Noise

from nighttime use of the Proposed Project will cause some sleep disturbance even after mitigation.

Section 4.4 also analyzes the aviation noise impacts of JWA on existing and cumulative OCP-96M noise sensitive land uses.

Within Orange County, JWA and OCX would be the sources of commercial aircraft noise impacts, although Fullerton Airport would generate cumulative GA aircraft noise impacts and Los Alamitos AFRC would generate cumulative military aircraft noise impacts in Orange County. In addition to airports in the County, GA and military aircraft overfly the County on approaches and departures to regional airports. While individually these flights generate less than significant noise impacts (see Section 4.4 for significance discussion) in the vicinity of JWA and the El Toro site, they have generated noise complaints in Southern Orange County since military aircraft ceased regular operations at MCAS El Toro. Since Section 4.4 concludes that OCX would have significant aircraft noise impacts after mitigation, the project is anticipated to result, together with other aircraft noise, in a significant aviation noise impact.

Currently, regional commercial airports including LAX, Long Beach, Ontario, Burbank, San Diego, and March AFB include existing and/or planned noise sensitive land uses within the aircraft 65 dB CNEL contour. The cumulative impact of the project would be to reduce or avoid increases in aviation operations and, therefore, reduce cumulative regional aircraft noise impacts on noise sensitive uses, including sleep disturbance. Because regional airports already include large numbers of noise sensitive uses (Table 8.2-1) within the 65 dB CNEL contour, unlike OCX and JWA, the net cumulative impact of the project is anticipated to be beneficial. That is, the project impacts in the vicinity of OCX and JWA after mitigation are anticipated to be less than No Project Alternative effects at regional airports.

5.4.4.2 Conclusions

In summary, the project is anticipated to have a locally significantly adverse aviation noise impact, but a regionally beneficial cumulative aviation noise impact. As discussed in Section 4.4, mitigation measures would reduce local aviation noise impacts, but local impacts would remain significant after mitigation.

5.4.4.3 Highway Noise Impacts

Section 4.4 includes a cumulative analysis of the project highway noise impacts together with traffic generated by OCP-96M growth forecasts. Please refer to Section 4.4 for impacts and conclusions.

Section 5.4.3.1 includes an analysis of post-2020 cumulative traffic impacts including highway improvements that would reduce post-2020 impacts to a level of insignificance. All but two improvements are included in the MPAH, which is the basis of the County and

City Noise Elements for highway noise policy and regulation of development impacts. The two highway improvements not included on the MPAH are Laguna Canyon Road between Bake Parkway and Santa Maria Avenue, to which the project would contribute four percent of the cumulative growth, and Moulton Parkway between Ridge Route and Glenwood, to which the project would contribute three percent of the cumulative growth in traffic and traffic noise.

The County and City General Plans include Growth Management Elements/Plans and Noise Element policies, programs, and standards, and development regulations that ensure that highway noise impacts would be analyzed and mitigated during the review of the General Plan and zoning amendments required for the currently unplanned post-2020 cumulative development. In addition, these amendments would be subject to CEQA.

5.4.4.4 Conclusions

Based on County and City General Plan Growth Management Elements/Plans and Regulations, post-2020 highway noise impacts are anticipated to be reduced to a level of insignificance.

However, as noted above, local aviation noise impacts would remain significant after mitigation. Therefore, the combination of highway and aviation noise in the vicinity of the El Toro site is anticipated to be cumulatively significant after mitigation.

5.4.5 Potential Cumulative Impacts

5.4.5.1 CEQA Threshold

The CEQA threshold of significance used to determine cumulative air quality impacts is as follows: Does the project have air quality impacts that are individually limited, but cumulatively considerable?

5.4.5.2 Construction Impacts

The Proposed Project is expected to be constructed in four phases, lasting approximately 20 years. Ozone precursors ROC and NO_x from construction equipment exhaust and fugitive dust from soil disturbance generated during construction of each of the related projects identified in Section 5.0 of Draft EIR No. 573, as well as from the Proposed Project, will cumulatively affect the region's air quality.

The South Coast Air Quality Management District (SCAQMD) has included the construction emissions within the South Coast Air Basin (Basin) in its preparation of the emissions inventory in the regional Air Quality Management Plan (AQMP) and, therefore, in its projection of the attainment of these air pollutants. Each related project, similar to the Proposed Project, would be required to implement all feasible mitigation measures to reduce

the air pollutant emissions. Because the South Coast Air Basin is nonattainment in ozone and PM₁₀, cumulative construction emissions are anticipated to remain significant and unavoidable for cumulative effects under OCP-96M forecasts.

5.4.5.3 Operational Air Quality Impacts

Although the Basin is in nonattainment for federal CO standards, concentrations of carbon monoxide (CO) monitored in Orange County stations have been below the State and federal standards for the past five years. Cumulative traffic volumes based on the project for the JWA and El Toro sites and on OCP-96M forecasts for offsite development were used to assess the CO concentrations at most affected intersections in the project vicinity in Section 4.5 of Draft EIR No. 573. No exceedance of the State or federal CO standards was identified in for any future years including Phase 1 (2005), Phase 2 (2010), Phase 3 (2015), and Phase 4 (2020). No exceedance of the State or federal CO standards was found related to aircraft emissions from the Proposed Project in all future phasing years. Therefore, cumulative local CO hot spot impacts would be less than significant in all future phasing years. For the post-Phase 4 traffic conditions, all intersection impacts would be mitigated to acceptable levels of service with the recommended mitigation measures. Based on this, no CO hot spots are anticipated.

Due to the low background concentrations for SO_{2x} in Orange County, no exceedance of the State and federal SO_{2x} standards was found related to the aircraft exhaust in all future phasing years. The Basin is in attainment with State and federal SO_{2x} standards. Cumulative emissions of SO_{2x} are not anticipated to result in local concentrations of SO_{2x} in Orange County to exceed the State or federal standards.

A possible exceedance of the State's 1-hour NO₂ ambient air quality standard (0.25 ppm) was identified for OCX at Alton Parkway Business Park (0.373 ppm in Phase 2 and 0.493 ppm in Phase 4), the Irvine Transportation Center (0.580 ppm in Phase 2 and 0.670 ppm in Phase 4), and Old Towne Irvine (0.487 ppm in Phase 2 and 0.557 ppm in Phase 4). Based on the levels projected in Phase 2 and Phase 4, it is anticipated that the State's 1-hour NO₂ standard would also be exceeded at these three locations around OCX. Therefore, it is anticipated that the projected NO₂ concentrations would exceed the State's 1-hour standard at three sites in the vicinity of OCX for all four phases.

Similarly, a possible exceedance of the State's 1-hour NO₂ standard was identified for JWA at Executive Park (0.277 ppm) in Phase 4. Based on a linear interpolation calculation between the Phase 2 NO₂ level (0.219 ppm) and Phase 4 (0.277 ppm) at Executive Park, it is anticipated that the projected NO₂ level (0.248 ppm) at Executive Park in Phase 3 would be below the State's 0.25 ppm standard. Therefore, NO₂ concentration is projected to exceed the State's 1-hour NO₂ standard at one site in the vicinity of JWA after Phase 3.

There are no projected future NO₂ concentrations that would exceed the federal annual arithmetic mean (AAM) standard (0.0534 ppm) at both OCX and JWA in all future phasing years. There are no exceedances of the NO₂ standard modeled in any of the community areas surrounding either OCX or JWA. There would be no exceedance of the State's 1-hour NO₂ standard at all receptor locations around both airports. However, there would be one exceedance of the

~~federal annual arithmetic mean (AAM) standard (0.0534 ppm) for NO₂ concentration at Irvine Transportation Center around OCX for the Proposed Project in Phases 2, 3, and 4.~~ Cumulative development identified in Section 5.0 of Draft EIR No. 573 would result in the emission of NO₂. It is not anticipated that NO₂ emissions from the related projects and the OCP-96M/post-2020 forecasts would increase the NO₂ concentrations around the project sites by a significant amount. Nevertheless, the NO₂ exceedances are anticipated to be significant after mitigation.

The projected PM₁₀ concentrations would exceed the State's 24-hour standard (50 ug/m³) at all receptor locations around JWA and OCX in all future phasing years, but would be below the federal 24-hour standard (150 ug/m³). There are no projected future PM₁₀ concentrations that would exceed the federal annual arithmetic mean (AAM) standard (50 ug/m³) at both JWA and OCX at all receptors in all phasing years.

The SCAQMD has included the operational emissions from existing and future development within the South Coast Air Basin in its preparation of the emissions inventory in the regional Air Quality Management Plan (AQMP) and, therefore, in its projection of the attainment of these air pollutants. Future offsite development is based on SCAG and OCP-96M forecasts. Each cumulative or related project, similar to the Proposed Project, would be required to implement all feasible mitigation measures to reduce the air pollutant emissions.

5.4.5.4 Conclusions

The Proposed Project would result in additional air pollutant emissions in the project vicinity. Therefore, because the South Coast Air Basin is nonattainment in State and federal standards for ozone, and PM₁₀, and nonattainment in State standards for CO, cumulative construction and operational emissions would remain significant and unavoidable in all four project phases (Phase 1, Phase 2, Phase 3, and Phase 4) under both the OCP-96M and the post-Phase 4 cumulative development scenarios.

5.4.6 Topography

The threshold of significance used to determine cumulative topography impacts is as follows:

- (i) Does the project have topography impacts that are individually limited, but cumulatively considerable?

5.4.6.1 Cumulative Impacts

Existing topography varies substantially among the various related project development areas. Locally, these topographic features may be altered, depending on construction/development specifics of the individual projects. However, the County and City General

Plans, hillside grading policies, and grading ordinances are anticipated to mitigate topographic impacts in the project area.

5.4.6.2 Conclusions

The project will not have a significant adverse impact on topography, and is not anticipated to contribute to a significant cumulative impact.

5.4.7 Soils, Geology, and Seismicity

The threshold of significance used to determine cumulative soils, geology, and seismicity impacts is as follows:

- (i) Does the project have soils, geology, and seismicity impacts that are individually limited, but cumulatively considerable?

5.4.7.1 Cumulative Impacts

The geologic impacts vary substantially among projects within the cumulative study area, including the Lower Peters Canyon Specific Plan, Foothill Ranch, Portola Hills, Tustin MCAS Reuse Plan and the Eastern Transportation Corridor areas. Cumulative development covers a wide geographic area and includes numerous geologic features.

However, none of the projects in the cumulative study area are anticipated to result in significant adverse impacts related to geology, seismicity and soils after mitigation. Engineering and design features required by County and City General Plans and development regulations are anticipated to adequately address any potentially significant adverse impacts related to soils, geophysical, and reasonably foreseeable seismic impacts.

5.4.7.2 Conclusions

The project is not anticipated to result in significant adverse impacts due to soils, geology, or seismicity. Therefore, cumulatively significant adverse impacts related to soils, geology and seismicity in the area are not anticipated.

5.4.8 Potential Cumulative Impacts Related to Hydrology and Water Quality

The threshold of significance used to determine cumulative hydrology and water quality impacts is as follows:

- (i) Does the project have hydrology and water quality impacts that are individually limited, but cumulatively considerable?

5.4.8.1 Cumulative Impacts

The potential impacts of cumulative development will be mitigated to acceptable levels for hydrology as a result of flood control improvements required by County and City General Plans and development regulations and Master Plans of Drainage for project approval. These flood control features, such as construction of retarding basins, the lining of flood control channels, and ultimate implementation of area flood control master plans, will contribute to reducing flood control hazards associated with these projects. Regional hydrology will be improved as a result of these projects and their associated flood control requirements.

For water quality, the increase in urban runoff from cumulative development will continue to provide a source of heavy metals and fertilizers to the downstream watersheds, particularly San Diego Creek, Upper Newport Bay, and ultimately the Pacific Ocean.

Pursuant to the State and federal Clean Water Act, applicable regulatory agencies established total maximum density load (TMDL) pollutants inland to improve the water quality of receiving waters. Any cumulative impacts from surface water runoff quantities from cumulative development will be mitigated to below a level of significance by mitigation measures included in these projects in conformance with federal, State, County, and local regulations and policies. The implementation of Best Management Practices included in required National Pollution Prevention Plan Permits and Storm Water Pollution Prevention Plans is anticipated to reduce pollutants in runoff water to acceptable levels.

5.4.8.2 Conclusions

Based on the foregoing, cumulative impacts are anticipated to be reduced to acceptable levels after mitigation.

5.4.9 Potential Cumulative Impact Related to Biological Resources

The threshold of significance used to determine cumulative biological resource impacts is as follows:

- (i) Does the project have biological resource impacts that are individually limited, but cumulatively considerable?

5.4.9.1 General Impacts

The regional context for the consideration of potential cumulative adverse impacts on biological resources is the Central and Coastal NCCP Subregions. The NCCP Central

subregion area includes most of the frontal slopes of the foothills west of the Santa Ana Mountains from State Route 91 to the natural areas near Aliso Creek. The NCCP Coastal Subregion of the NCCP focuses on the San Joaquin Hills south of the MCAS El Toro site. However, because the biological resources on the MCAS El Toro site and on the sites of most of the related projects are generally in the Central Subarea, this discussion focuses primarily on potentially significant cumulative adverse impacts on biological resources in that area.

Although the project is not expected to have significant impacts, cumulative development in this area could result in significant adverse impacts on biological resources as described in the environmental documents for each project and/or could contribute to cumulatively significant adverse impacts on biological resources in the Central Subarea. These projects include the Lower Peters Canyon Specific Plan, the Foothill Ranch Planned Community, the Portola Hills Planned Community, Saddleback Meadows, Northwood High School in Irvine, the Alton Parkway Extension, the improvements to Rockfield Road and the north segment of the Foothill Transportation Corridor.

The Proposed Project would also contribute to the need for off-site highway improvements which will impact biological resources. Specifically, the project would contribute 3% of the cumulative total traffic growth at off-site highway improvements on Laguna Canyon Road, south of El Toro Road that will have impacts on off-site coastal sage scrub habitat, as shown in Table 5.4-4. These highway improvements, and the off-site coastal sage scrub habitat impacts, would result with or without the project.

**Table 5.4-4
Summary of Off-Site Cumulative Coastal Sage Scrub Impacts (Acres by Phase)**

Impact Type	2005	2010	2015	2020	Total
Direct	0	0	0	0	0
Indirect	2.62	0	0	0	2.62
Total	2.62	0	0	0	2.62

The primary potential significant cumulative adverse impact on biological resources is the continued fragmentation of ecosystems resulting from the incremental loss of native habitat and the separation of areas of native habitat from other areas of native habitat by intervening urban and suburban development. Habitat fragmentation has been linked to the reduction of sustainable population levels for many species, particularly free ranging mammals such as the mountain lion, bobcat and mule deer, that require large expanses of land. However, a coordinated open space plan that enhances and preserves remaining areas supporting native habitats would reduce such impacts on biological resources. The central/coastal NCCP, other open space preservation activities, and the Habitat Reserve and Wildlife Habitat Area included in the Proposed Project will provide connectivity among a number of large, protected open spaces in this part of the County. Therefore, the Proposed Project will not

contribute to a cumulatively significant adverse impact on biological resources, but will contribute beneficially to long-term preservation and protection of biological resources in the NCCP Central Subregion.

5.4.9.2 Conclusions

The project is not anticipated to result in significant adverse impacts, but would have beneficial impacts by preservation of habitat areas and construction of new habitat areas. Therefore, the project would not add to cumulative adverse impacts of related projects or OCP-96M.

5.4.9.3 Alton Parkway Impacts

The extension of Alton Parkway was committed and funded to serve off-site development prior to the Department of Defense decision to close MCAS El Toro. The Proposed Project, consistent with the CRP and EIR No. 563, contemplates requesting conveyance of the right-of-way for the extension to the County. Construction of Alton Parkway is and has been since the late 1980s, an independent project. The Alton Parkway extension is required without the Proposed Project, and was funded separately from the planning of the reuse project. Therefore, any impacts of the construction and operation of Alton Parkway are analyzed as potential cumulative impacts.

As currently aligned, construction of the extension would impact biological resources. The biological resources potentially impacted include coastal sage scrub, southern willow scrub, coast live oak woodland, ephemeral drainages and washes, and primarily annual, non-native grassland. Site preparation activities are estimated to impact an estimated five acres of coastal sage scrub. In addition, based upon the 1992 NCCP baseline target species data, one pair of California gnatcatchers is present within the impact area of the roadway. Although specific delineations have not been completed, there appears to be less than one acre of Waters of the U.S. (Army Corps of Engineers jurisdiction) and up to four acres of riparian scrub, which would be impacted if the Alton Parkway is constructed as presently proposed. The four acres of riparian scrub would include one acre of Waters of the U.S. These acreages occur within the impact area of the roadway. Riparian scrub would include willow and mulefat communities along Borrego Wash and a tributary. A specific jurisdictional wetland delineation has not been conducted for Borrego Wash, but it is likely to be a subset of the acreage defined for Waters of the U.S.

5.4.9.4 Conclusions

These impacts prior to mitigation (see Section 5.4.9.7) would be considered a significant cumulative impact for biological resources.

5.4.9.5 Marshburn Channel Impacts

Marshburn Channel improvements are required as a part of regional off-site development and are required even without the Proposed Project. Marshburn Channel, between Irvine Boulevard and Trabuco Road, is a gunite-lined open trapezoid channel that is planned to be improved to a concrete-lined open channel. In addition, and along Irvine Boulevard, the existing open channel is planned to be improved to a reinforced concrete box. The Marshburn Channel does convey Waters of the U.S. An estimated 1.9 acres of Waters of the U.S. would be impacted as part of this regional project. The 1.9 acre impact is considered a cumulative impact. There are no substantive biological resources contained within the cross section of this drainage.

5.4.9.6 Conclusions

No cumulative significant adverse biological resource impacts are anticipated to occur as a result of the Marshburn Channel improvements.

5.4.9.7 Mitigation Measures

Section 4.9 includes mitigation measures for construction activities that would reduce the impacts of the Alton Parkway extension on biological resources. In addition to these impacts, the following mitigation measure is incorporated:

B-17 The County is the lead agency for a redesign of Alton Parkway. It will redesign the extension to minimize biological impacts to one acre or less of Waters of the U.S. and jurisdictional wetlands.

5.4.9.8 Level of Significance After Mitigation

The cumulative impacts associated with the Alton Parkway extension on biological resources have been determined to be significant prior to mitigation. While the application of project mitigation measures (Section 4.9) to the Alton Parkway extension would reduce non-wetlands impacts, these impacts would remain significant after mitigation. With the incorporation of Mitigation Measure B-17, the total Waters of the U.S. impact for the Alton Parkway extension can be reduced to approximately 0.7 acre, which includes 0.45 acre along Borrego Wash and 0.25 acre along the local tributary. In addition, the total linear distance of the crossing of these drainages will also be reduced, as well as the amount of acreage of riparian scrub. Therefore, due to the small streambed acreage directly impacted and Mitigation Measure B-17, the cumulative riparian resource impacts are less than significant after mitigation.

5.4.10 Potential Cumulative Impacts Related to Public Services and Utilities

The threshold of significance to determine cumulative public services impacts is as follows:

- (i) Does the project have public service impacts that are individually limited, but cumulatively considerable?

5.4.10.1 Potential Impacts Related to Public Services

Cumulative Impacts

Cumulative offsite development is anticipated to increase the demand for public services, including police, fire and emergency medical, schools, libraries, transit, and solid waste. In combination with cumulative development projects, the Proposed Project at the MCAS El Toro site will also contribute to the demand for public services. Although the Proposed Projects' incremental contribution is not anticipated to be significant based on implementation of mitigation measures and the standard conditions of approval listed in Section 4.10.

Cumulative developments will be required under County and City General Plan Growth Management Elements, public service and facilities policies, and development regulations to provide for mitigation that will reduce significant public services impacts. Cumulative impacts on the provision of schools, police, and fire and emergency services will be analyzed in the CEQA and fiscal impact documents required by County and City General Plans for all future cumulative projects, and these impacts are anticipated to be reduced to below a level of significance with the addition of staff, facilities, or the payment of applicable fees. The OCTA will be able to determine the need for transit service, and plan accordingly, as reasonably foreseeable future projects develop. With adherence to the IWMD recommendations, and State, local, and federal regulations that address the disposal of waste, the cumulative projects are not expected to have a significant cumulative impact on solid waste services.

5.4.10.2 Conclusions

In conclusion, no significant cumulative effects are anticipated.

5.4.10.3 Potential Impacts Related to Utilities

The threshold of significance to determine cumulative utility impacts is as follows:

- (i) Does the project have utility impacts that are individually limited, but cumulatively considerable?

Cumulative development is anticipated to increase the demand for the following utilities.

Cable Television Services

As stated in Section 4.10, the project with Mitigation Measures U-1, U-2, U-3 will not result in significant short or long-term impacts related to cable television.

Cumulative development will result in an increase in the demand for cable television services. The cable television providers in the region have or would provide cable television, telecommunications, data systems and Internet services to these projects. Short-term construction related impacts to cable television facilities will be mitigated to below a level of significance by mitigation measures included in these projects as required by County and City development policies. Therefore, the Proposed Project, when considered with other projects in the region, will not contribute to a cumulatively significant adverse impact related to cable television services.

Communication Facilities and Services

As stated in Section 4.10.7, the project with Mitigation Measure U-3 would result in no significant adverse impacts on Communication Facilities and Services.

Cumulative development will result in increases in the demand for communication facilities and services. It is anticipated that the communication providers in the region have or would also provide telecommunications, data systems and Internet services to these projects. Short-term construction related impacts on communication facilities will be mitigated to below a level of significance by mitigation measures included in these projects as required by County and City development policies. Cable television providers master plan their facilities, infrastructure, services and programming based on planned and anticipated land uses and market based demand in their service areas. Communications providers master plan their facilities, infrastructure and services based on planned and anticipated land uses and market based demand in their service areas. Therefore, the Proposed Project, when considered with other projects in the region, will not contribute to a cumulatively significant adverse impact related to communication facilities and services.

Electrical Facilities and Services

As stated in Section 4.10.7, the project with Mitigation Measures U-1, U-2, and U-3 would be reduced to a level of insignificance.

Cumulative development will result in an increase in the demand for electric facilities and services. County and City development policies require will-serve commitments from Southern California Edison (SCE) or San Diego Gas and Electric ensuring that infrastructure and supplies are adequate to serve these projects. Short-term construction related impacts to

electrical facilities will be mitigated to below a level of significance by mitigation measures required by County and City development policies. Therefore, the Proposed Project, when considered with other projects in the region, is not anticipated to contribute to a cumulatively significant adverse impact related to electric facilities and services.

Fuel Facilities

As stated in Section 4.10.7, the fuel facility demand at JWA would be reduced in the project case, and the impacts of the project at the El Toro site would not be significant.

Cumulative development will result in an increase in the demand for fuel. County and City development policies require will-serve commitments from service providers prior to development. Therefore, the Proposed Project, when considered with other aviation related projects in the region, is not expected to contribute a cumulatively significant adverse impact related to fuel and fuel facilities.

Natural Gas

As stated in Section 4.10.7, the project impacts with Mitigation measures U-1, U-2, and U-3 would be reduced to a level of insignificance for natural gas.

Cumulative development will result in an increase in the demand for natural gas facilities and services. County and City development policies require will-serve commitments prior to project development from the Southern California Gas Company (SCGC). It is anticipated that short-term construction related impacts created by the construction of new natural gas facilities will be mitigated to below a level of significance by County and City development policies. Therefore, the Proposed Project, when considered with other projects in the region, is not anticipated to contribute to a cumulatively significant adverse impact related to natural gas services and facilities.

Domestic Water

As stated in Section 4.10.7, the project with Mitigation Measures U-1, U-2, and U-4 would not result in significant adverse short or long-term domestic water impacts.

Cumulative development will result in an increase in the demand for domestic water. County and City development policies require will-serve commitments prior to project development from water districts. It is anticipated that short-term construction related impacts created by the construction of new domestic water facilities will be mitigated to below a level of significance by County and City development policies. Other projects in the region are also anticipated to increase the demand for domestic water in the region. The water districts master plan their facilities, infrastructure, and services based on planned and anticipated land uses, adopted forecasts including OCP-96M, and market based demand in their service area. Each project is reviewed independently by the applicable water district to

ensure that sufficient facilities are in place and available domestic water supplies are adequate to properly service each project. Therefore, the Proposed Project, when considered with other projects in the region, is not anticipated to contribute to a cumulatively significant adverse impact related to domestic water resources.

Recycled Water

As stated in Section 4.10.7, the project with Mitigation Measures U-1 and U-2 would not result in a significant adverse impact on recycled water facilities.

Cumulative development will result in an increase in the demand for recycled water. Short-term construction impacts will be created by the development of new recycled water facilities, including disruption of recycled water service or accidental damage to existing recycled water facilities. Other projects in the region are also anticipated to increase the demand for recycled water. The water districts master plan their facilities, infrastructure and services, including recycled water, based on planned and anticipated land uses, adopted growth forecasts including OCP-96M, and market based demand in its service area. Each project is also reviewed independently by the water district to ensure that sufficient facilities are in place and available recycled water supplies are adequate to properly service each project. Therefore, the Proposed Project, when considered with other projects in the region, is not anticipated to contribute to a cumulatively significant adverse impact related to recycled water.

Sanitary Sewers

As stated in Section 4.10.7, the project with Mitigation measures U-1 and U-2 would not result in a significant adverse impact on sanitary sewers.

Cumulative development will increase the generation of wastewater. County and City development policies require will-serve commitments prior to project development from the applicable water district. Other projects in the region would also increase the generation of wastewater in the region. As noted earlier, the water districts master plan their facilities, infrastructure and services, including sanitary sewers, based on planned and anticipated land uses and market based demand in its service area. Each project is also reviewed independently by the water district to ensure that sufficient facilities are in place to properly serve the wastewater collection and treatment needs of each project. Therefore, the Proposed Project, when considered with other projects in the region, is not anticipated to contribute to a cumulatively significant adverse impact related to wastewater.

5.4.11 Natural Resources and Energy

The threshold of significance to determine cumulative natural resource and energy is as follows:

- (i) Does the project have natural resources and energy impacts that are individually limited but cumulatively considerable?

5.4.11.1 Mineral Resources

As stated in Section 4.11.8, there are no mineral resources on the JWA site and any resources on the El Toro site will not be used for commercial purposes. Mineral resources available in the region are anticipated to be adequate for the project. In conclusion, the Proposed Project's effects on mineral resources would not be significant.

Cumulative development will require the use of building materials including such mineral resources as sand, gravel and other similar construction materials. County and City Resource Element policies and the Surface Mining Recovery Act will ensure that these materials are available in sufficient supply to provide for the development of these future projects since these materials are readily available in the County and region. Also, the affected area does not include active mineral mining sites and the cumulative projects will not affect extraction operations or its resources. Finally, sand, gravel, and construction materials are proposed to be recycled on the project site, reducing project demand.

5.4.11.2 Conclusions

Therefore, the Proposed Project, when considered with other projects in the region, is not anticipated to contribute to a cumulatively significant impact related to mineral resources.

5.4.11.3 Agricultural Resources

As stated in Section 4.11.8, there are no agricultural resources on the JWA site and the project would result in the loss of 902 acres (87%) of the agricultural resources at the El Toro site. This impact is significant, and would remain significant after mitigation. This conclusion is the same as EIR 563.

The depletion of agricultural and farmland throughout the region is a significant adverse impact that can, in most cases, not be mitigated. Although the California State Legislature provides incentives to retain farmlands for agricultural purposes under the Williamson Act, the policy does not guarantee the long-term preservation of agriculture lands. The Proposed Project will result in the loss of substantial agricultural farmland on the project site due principally to be construction of nonaviation uses including golf courses, a business park, and public facilities (see Section 4.11.7.1). In addition, the project would result in off-site direct (due to project improvements) and indirect (due to cumulative traffic improvement requirements) impacts, as shown in Table 5.4-5.

**Table 5.4-5
Summary of Off-Site Agricultural Soils Impacts (Acres by Phase)**

Impact Type	2005	2010	2015	2020	Total
Direct	9.76	0.66	0	3.43	13.85
Indirect	0	34.00*	0	0	34.00
Total	9.76	34.66	0	3.43	47.87

* Trabuco Road/ETC Interchange

5.4.11.4 Conclusions

Some of the other related projects will also result in the incremental loss of agricultural and farmland in the Orange County area. Therefore, these projects will contribute to the cumulatively significant loss of agriculture resources (see Section 4.11). This was the same conclusion made in Section 7.3.10.1 (Potential Cumulative Impacts Related to Natural Resources and Energy Under the CRP) of Final EIR No. 563.

5.4.11.5 Water

As stated in Section 4.11.8, there are no surface water resources at the El Toro or JWA sites, and no groundwater modification is planned. Therefore, the Proposed Project would result in no significant adverse impacts to water resources.

Cumulative development will also result in the use of additional amounts of water which will result in a significant adverse cumulative impact on water. County and City development policies require will-serve commitments prior to development from water purveyors. The regional water districts master plan their capacity based on planned development and adopted growth forecasts such as OCP-96M. Water reclamation and recycling, groundwater recharge and other supply strategies are required by County and City policies, as well as water district policies and programs, in order to meet the demand of continued growth and development. County and City Growth Management Elements and public services and facilities policies ensure development is phased in coordination with water capacity.

Cumulative projects are also required to comply with CEQA, including water impact mitigation programs. However, since water is a finite resource, cumulative development and the project will contribute individually small but cumulatively significant demands for a limited resource.

5.4.11.6 Conclusions

Cumulative development impacts on water demand are significant adverse impacts.

5.4.11.7 Energy

As stated in Section 4.11.8.2, electricity demand at JWA would decrease with the project, and increase at the El Toro site. The increase at the El Toro site would contribute substantially less than 1% of the peak SCE service in year 2020. Regarding natural gas, the demand at JWA would also decline under the project, but increase at the El Toro site. Again, the increase at El Toro would be substantially less than 1% of statewide and ASA growth. Section 4.11.8.2 analyzes the project impacts on highway, construction and aviation fuels for JWA and the El Toro site. For each of these impacts, Section 4.11.8.2 determines that the project would result in substantially less than 1% increase in demand, but the project's encouragement of the use of jet fuel is an impact that cannot be mitigated to a level below the level of significance.

Cumulative development projects vary in contribution to cumulative adverse impacts on energy resources. Some of the proposed projects and projects under construction will create increased need for energy as well as services and facilities required for the supply of these resources. On the other hand, projects described under Section 5.3.3 (Transportation Projects) of the Project Draft EIR may contribute to beneficial impacts on such energy resources as fossil fuels by reducing trip length and vehicular fuel consumption in the region. However, considered cumulatively, cumulative development will have an adverse impact on energy resources in the region because nonrenewable energy resources are finite.

5.4.11.8 Conclusions

Therefore, the Proposed Project, considered with other projects in the region, will contribute to a cumulatively significant adverse impact related to energy.

5.4.12 Potential Cumulative Impacts Related to Aesthetics, Light and Glare

The threshold of significance to determine cumulative aesthetic, light and glare impacts is as follows:

- (i) Does the project have aesthetic, light and glare impacts that are individually limited but cumulatively considerable?

5.4.12.1 Cumulative Impacts

The Proposed Project would change the views of the site from the existing closed military base to an airfield with new airport terminal, aviation support use buildings and nonaviation revenue support uses, which is considered a beneficial impact. Cumulative projects have or will result in a change in the aesthetics of the area in which they are constructed. However, each project has or will be required to comply with CEQA and County or City development

policies or regulations, which are anticipated to mitigate their aesthetic impacts to an acceptable level. Therefore, the Proposed Project, when considered with other related projects in the region, will not contribute to a cumulatively significant adverse impact related to aesthetics.

5.4.12.2 Conclusions

The Proposed Project would not create light and glare substantially greater than that generated by 1998 military base operations because of the similar type of use proposed. Cumulative development will incrementally add sources of light and glare to the area where they are constructed. However, each project has or will be required by County or City development policies to mitigate light and glare impacts to below a level of significance. Therefore, the Proposed Project, considered with other projects in the region, will not contribute to a cumulatively significant adverse impact related to light and glare.

5.4.13 Potential Cumulative Impacts Related to Cultural Resources

The threshold of significance to determine cumulative cultural resource impacts is as follows:

- (i) Does the project have cultural resource impacts that are individually limited but cumulatively considerable?

5.4.13.1 Cumulative Impacts

The Proposed Project, considered by itself, will not generate any significant adverse impacts to cultural resources since the studies required by the mitigation measures in FEIR No. 563 concluded that 1) the post-war era buildings at MCAS El Toro were not eligible for listing on the National Register of Historic Places, and 2) the archaeological site CA-ORA-1462 is not considered a unique resource or eligible for the National Register. Significant paleontological sites are not known to be present; however, the on-site soil formations have the potential for these resources. Standard construction monitoring procedures will be required for the project to ensure that no significant impacts occur if such paleontological resources are discovered during grading activity. Application of those procedures will reduce any potentially significant impact to paleontological resources to less than significant.

The Proposed Project, considered in conjunction with cumulative development projects in the study area, would not contribute to cumulative impacts on cultural resources, since all development projects are subject to County and City development policies or requirements. These mitigation requirements will ensure that adequate procedures, such as research, site testing, construction monitoring, and data recovery, take place as necessary. Therefore,

impacts caused by other cumulative projects approved in the study area have been or will have been mitigated to appropriate levels.

At JWA, there are no cultural resources on the site that would be disturbed by the Proposed Project improvements.

5.4.13.2 Conclusions

The Proposed Project, when considered with other projects in the region, will not contribute to a significant cumulative impact to cultural resources.

5.4.14 Potential Cumulative Impacts Related to Recreation

The threshold of significance to determine cumulative recreation impacts is as follows:

- (i) Does the project have recreational impacts that are individually limited but cumulatively considerable?

5.4.14.1 Cumulative Impacts

The Proposed Project considered by itself will not create any significant impacts to recreational facilities that cannot be mitigated to a level below significance. One potentially significant impact would occur by the project due to inconsistency with the Open Space Conservation Map in the County General Plan Resources Element. This condition would be corrected upon implementation of Mitigation Measure LU-1, which would amend the County General Plan elements to be consistent with the Proposed Project. In the long term, the Proposed Project does not physically disrupt any existing parks, off-road trails, or other recreational facilities. The project provides for open space and recreational uses that would be compatible with the proposed commercial airport and aviation related uses. In that the project provides recreational uses that would be available for public use, it adds recreational components to the MCAS El Toro area that were previously not available for public use.

Considered in combination with the reasonably foreseeable future projects in the cumulative study area, the Proposed Project does not cause increased use of existing recreational facilities, nor does it cause a need for more recreational facilities to be built.

5.4.14.2 Conclusions

In conclusion, the recreational effects of the Proposed Project would not be cumulatively significant.

5.4.15 Potential Cumulative Impacts Related to Public Health and Safety

The threshold of significance to determine cumulative public health and safety impacts is as follows:

- (i) Does the project have public health and safety impacts that are individually limited but cumulatively considerable?

5.4.15.1 Cumulative Impacts

Cumulative development will create incremental public health and safety impacts to the degree that projects require the use of hazardous materials for construction and operation. However, transportation, storage use, and disposal of these materials are strictly regulated by existing federal, State, County, and in some areas, city regulations. In addition, each cumulative project must comply with CEQA. Therefore, these projects are not anticipated to create significant public health and safety impacts.

Cumulative aircraft safety impacts related to the Proposed Project would result from increases in aviation activity at other airports in the Air Service Area. Within the Air Service Area, the number of passengers is projected to increase from 91.8 MAP in 1996 to 178.6 in 2020, a 95 percent increase. Air cargo handled in the region is projected to increase from 2.5 million tons in 1996 to 8.9 million tons in 2020, a 256 percent increase. While these increases are not expected to affect air safety in the immediate vicinity of JWA and OCX beyond that estimated for the Proposed Project, they will tend to increase the risk of mid-air collisions in the Air Service Area.

Because general aviation aircraft were involved in the two significant commercial aircraft mid-air collisions in the Air Service Area (Cerritos and San Diego), general aviation flying is seen as a significant factor in the risk of mid-air collisions. The number of general aviation aircraft based in the region (and presumably the number of general aviation operations) is projected to remain essentially the same in 2020 as in 1997. The stabilizing of general aviation activity in the region is expected to moderate potential increases in mid-air collision risk.

Growth in urbanization around JWA and OCX would tend to increase the potential for personal injury to people on the ground or property damage in the event that an off-site accident occurred. However, property around JWA is essentially fully built out, and the proposed safety zones at OCX will mitigate this potential impact to a level of insignificance (Section 4.15).

Although cumulative growth has the potential to increase the risks associated with aircraft accidents, the cumulative impacts are not estimated to be significant relative to Existing Conditions or the Proposed Project due to the extremely small likelihood of occurrences.

5.4.15.2 Conclusions

The Proposed Project, considered with other projects in the region, will not contribute to a cumulative significant adverse aviation impact related to public health and safety.

5.4.16 Potential Cumulative Impacts Related to Hazardous Materials and Hazardous Waste

5.4.16.1 Asbestos and Lead-Based Paint

The threshold of significance to determine cumulative hazardous materials and hazardous waste impacts is as follows:

- (i) Does the project have hazardous materials and hazardous waste impacts that are individually limited but cumulatively considerable?

As discussed in 5.4.15 above, cumulative development has the potential to use hazardous materials for construction and operation. However, the transport, storage, use, and disposal of these materials are strictly regulated by existing federal, State, County, and, in some areas, city regulations. In addition, each cumulative project must comply with CEQA. Therefore, these projects are not anticipated to create significant hazardous conditions.

Under the Proposed Project, a number of buildings that contain asbestos and lead-based paint will remain on the site at the time of Marine Corps conveyance of the site to the County. However, according to DoD policy, the Marine Corps is required to maintain all asbestos-containing materials (ACM) and lead-based paint (LBP) in a manner protective of human health and the environment and in compliance with all applicable federal, state and local laws pertaining to these materials.

5.4.16.2 Conclusions

Therefore, it is anticipated that all structures containing ACM and LBP will be received by the County in a condition that will not contribute to a cumulatively significant impact related to ACM and LBP.

5.4.16.3 Hazardous Materials Use and Hazardous Waste Generation

Land uses under the Proposed Project and potentially foreseeable future projects potentially include hazardous materials and generate hazardous wastes such as petroleum wastes, spent solvents, used oils and oily wastes, and other miscellaneous hazardous wastes. These substances will be managed and controlled based on existing federal, state and local

regulations governing the storage, handling, transportation, and disposal of hazardous materials and wastes. Therefore, since these materials will be managed and controlled, they are not anticipated to contribute to a cumulative significant impact related to the use and disposal of hazardous materials.

As analyzed in Section 4.16, the right-of-way for northeasterly extension of Alton parkway is located in the immediate vicinity of landfill Site 2 (within 1000 feet) and therefore may be adversely affected by the imposition of institutional controls for Landfill Site 2. DON recognizes the future construction of the Alton Parkway extension and states in the Final ROD for Site 2 that “. . . In developing the proposed remedy for Site 2, DON intends that all relevant parties (including the DON, FFA signatories, and the County of Orange) will cooperate with one another to ensure that all proposed projects (the remedy for Site 2, the construction of Alton Parkway, and improvements to Borrego Canyon Wash) are designed, constructed and maintained in a prompt and reasonable manner.” Therefore, implementation of DON’s selected remedy is anticipated to reduce impacts related to the presence of Site 2 on Alton Parkway to below a level of insignificance.

5.4.16.4 Conclusions

The Proposed Project, considered with other projects in the region, will not contribute to a cumulative significant adverse impact related to hazardous materials and hazardous waste.

5.4.17 Potential Cumulative impacts Related to Socioeconomics

The threshold of significance to determine cumulative socioeconomic impacts is as follows:

- (i) Does the project have socioeconomic impacts that are individually limited but cumulatively considerable?

5.4.17.1 Cumulative Impacts

When considered together with related projects, the Proposed Project is anticipated to result in significant adverse cumulative socioeconomic impacts. Section 4.17 includes a cumulative analysis of the project compared to OCP-96M (refer to Section 4.17 for the analysis, mitigation measures, and conclusions.) The Proposed Project would redesignate substantial portions of the MCAS El Toro site for aviation, recreational, institutional, and commercial/industrial uses. As discussed earlier in Section 4.17 (Socioeconomics), redevelopment of the site with these uses could result in significant impacts relative to: (a) inducing substantial growth and concentration of non-resident employee population; (b) increasing demand for all types and prices of housing, while not directly supplying any new housing to meet this demand; and (c) reducing the supply of available housing in the County.

The project is not, however, anticipated to result in cumulative demand off site for additional support development. The project includes sufficient land and development (Section 3.0) to accommodate all ancillary uses such as car rentals, hotel rooms, flight catering, etc. In addition, the project includes 99 acres of aviation industrial uses and 87 acres of business park uses, which will meet the support needs of aviation and nonaviation uses proposed. Finally, approximately 200 acres of land adjacent to Planning Area 1 is classified for employment development in the County Land Use Element. According to the County General Plan, this area would accommodate 2.5 to 5.0 million square feet of light and service industries and professional-administrative office uses, and up to 26,000 employees. This development is included in OCP-96M and the traffic and other impact categories related to OCP-96M in Section 4.3. Based on these directly provided support uses and already planned adjacent uses, no further support uses would be required for the project.

Several of the related projects could produce similar impacts, cumulatively increasing the magnitude of these impacts. Specifically:

- i) The owners of unplanned and undeveloped areas surrounding the MCAS El Toro site could propose land uses not currently accounted for in the adopted regional growth forecasts. These proposals will be subject to review including CEQA analysis by the affected cities. The County and City of Irvine General Plans include Growth Management Elements which include policies and standards for these types of proposals which could mitigate impacts to a level of insignificance. However, potential land uses developed at these sites could impact the distribution of regional growth and thus cumulatively increase the magnitude of inconsistency with adopted regional growth forecasts if the affected cities chose to override the growth forecasts.
- ii) The related projects listed above could result in substantial growth and concentration of both resident and non-resident population, cumulatively increasing the impact of the Proposed Project.
- iii) The commercial and industrial projects that do not include a residential component (i.e., Sakioka Property, Koll Center Expansion, Rockwell Site Expansion, Hotel and Office Development on Former Car Dealership, Nexus Twin Towers, First American Title Project, Foothill Aliso Commercial Center, Shea Business Properties, Enterprise Car Sales, commercial development along El Toro Road, office development along Moulton Parkway, LAX Master Plan and other such cumulative projects) could cumulatively induce substantial non-residential development without providing any housing to accommodate potential new employees at these sites. These projects, in concert with the Proposed Project, could cumulatively increase demand for all types and prices of housing, while not directly supplying any new housing to meet this demand.

Each related project would be required to comply with CEQA and mitigation measures will be or have been considered together with findings. Mitigation Measure SE-1 in Section 4.17 would reduce the cumulative impacts noted above in relation to adopted forecasts.

However, cumulative socioeconomic impacts are anticipated to be significant after mitigation as analyzed in Section 4.17.

5.4.17.2 Conclusions

The project would incrementally add to the cumulative adverse impacts noted in Section 4.17 and impacts will remain significant after mitigation.

5.4.18 Potential Cumulative Impacts Related To The Risk of Upset

The threshold of significance to determine risk of upset impacts is as follows:

- (i) Does the project have risk of upset impacts that are individually limited but cumulatively considerable?

5.4.18.1 Cumulative Impacts

Cumulative impacts pertaining to risk of upset refers to the likelihood or potential of the related projects and the Proposed Project to contribute to community hazards associated with explosions, fires, or release of hazardous substances in combination with other sources of such hazards. The risk of upset conditions associated with the other related projects include the spill of fuel and other hazardous materials during construction of these projects and the loading of fuel from aboveground or belowground storage tanks. The primary risk of upset associated with the Proposed Project relates to the potential exposure of nearby residents and/or persons using nearby roadways resulting from the planned on-site storage and use of aviation fuel, as well as its highway transport to the MCAS El Toro and JWA sites. Section 4.18 includes a mitigation measure that would reduce highway transport impacts due to OCX to a level of insignificance. No new or additional impacts are proposed at JWA.

5.4.18.2 Conclusions

Fires or explosions involving the bulk storage of flammable or combustible liquids, while potentially serious or catastrophic, are isolated local events, typically restricted to industrial or similar areas. Because no facilities storing similar large volumes of such materials are known to exist or to be included in the related impacts near the related project areas or near the bulk fuel storage installations at OCX or JWA, the potential for these projects to contribute to significant cumulative community risk of upset is remote.

Therefore, the Proposed Project, considered with the other projects in the region, will not contribute to a cumulative significant adverse impact related to risk of upset conditions.

6.0 LONG-TERM IMPLICATIONS OF THE PROPOSED PROJECT

6.1 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES THAT WOULD BE CAUSED BY THE PROPOSED PROJECT SHOULD IT BE IMPLEMENTED

CEQA Guidelines Section 15126.2 describes the issues for this section as follows:

“Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as a highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.”

The construction of the land uses under the Proposed Project would require the commitment of a substantial amount of building materials such as concrete, asphalt, aggregate, steel, and other materials used in the construction of buildings, parking areas, streets, and infrastructure. However, the commitment of building materials under the Proposed Project would not be a significant adverse impact because the demand for these materials would be phased consistent with the phasing of the construction of the land uses, and these resources are generally considered to be readily available and in sufficient quantity in this region.

The Proposed Project would alter part of the site from the existing agricultural uses to urban uses. This would cause the irreplaceable loss of use of the agricultural soils on the Marine Corps Air Station (MCAS) El Toro site. This impact is significant and cannot be mitigated to a level below the level of significance (see Section 4.11, Natural Resources and Energy).

The implementation and operation of the land uses under the Proposed Project would require a long-term, irretrievable commitment of natural resources, including water, jet fuel, gasoline, diesel fuel, natural gas, and electricity. As described earlier in Section 4.10 (Public Services and Utilities) and Section 4.11 (Natural Resources and Energy), it is expected that the demand for these types of resources is within the capacity and capability of the applicable service providers to satisfy. Therefore, the commitment of these types of resources to the long-term operation of the land uses under the Proposed Project would not result in a significant adverse impact, except for consumption of jet fuel as compared to the existing condition. However, to the extent these resources are non-renewable and have finite limits, the project will have an impact on the long-term supply in generations to come absent technology changes to decrease or eliminate reliance on them.

The long-term operation of the airport and public streets under the Proposed Project would require a commitment on the part of the applicable parties to maintain and operate these

facilities. This is not expected to be a significant adverse impact of the Proposed Project, although it will require a commitment of financial, personnel, and facility resources by the applicable operators and agencies.

The protection of the wildlife habitat area and open space on the MCAS El Toro site is a beneficial effect of the Proposed Project related to natural resources.

In summary, the Proposed Project will not result in a significant adverse impact related to the commitment of resources for construction and operation of the proposed land uses on the MCAS El Toro site with the exception of encouragement of large amounts of jet fuel consumption when compared to the existing condition, as acknowledged in Section 4.11 and Chapter 5.0. However, the commitment of agricultural land for urban uses is a significant adverse impact of the Proposed Project related to natural resources that cannot be mitigated to below a level of significance. This impact was acknowledged in EIR No. 563 and the Supplemental Analysis and does not represent a new impact. The Proposed Project preserves additional acres of agriculture that were not preserved in the CRP project.

6.2 GROWTH INDUCING IMPACTS OF THE PROPOSED PROJECT

The text that follows is taken from EIR No. 563 because the growth inducing impacts of the Proposed Project have not changed substantially since EIR No. 563. The analysis provided in EIR No. 563 was not challenged in court. The text and analysis have been updated to reflect both changed conditions and the current Proposed Project.

No additional text has been inserted from the EIR No. 563 Supplemental Analysis because this topic was not required to be addressed in the Supplemental Analysis.

Text that is no longer applicable is shown in ~~strikeout~~. New text is shown in underline.

Note: The double underline and ~~italicized strikeout~~ in Chapter 6 reflects changes made to EIR No. 563 text for inclusion in EIR No. 573. Underline text indicates additions and ~~strikeout~~ indicate deleted text to reflect changes made to the Final EIR.

6.3 CEQA DEFINITION OF GROWTH INDUCING IMPACTS

Sections ~~15126(g)~~ 15126(d) and 15126.2(d) of the CEQA Guidelines requires that an environmental impact report discuss the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, whether directly or indirectly.

Direct growth inducing impacts are generally associated with the provision of urban services and the extension of infrastructure to an undeveloped area. The provision of services and facilities to a site can reduce development constraints for other nearby areas and can serve to induce further

development in the vicinity of a project. Indirect, or secondary, growth inducing impacts consist of growth induced in the region by the additional demand for housing, employment, and goods and services associated with population increases caused by, or attracted to, new development.

Section ~~7.0 of this EIR~~ 5.0 in this EIR No. 573 (Cumulative Impacts) discusses the potential cumulative impacts of the reuse alternatives and other existing, approved and planned projects in the vicinity of the ~~Marine Corps Air Station (MCAS)~~ El Toro site and JWA. To avoid extensive and unnecessary repetition, the information in Section ~~7.0-5.0~~ is not repeated in this section, although some of the identified cumulative impacts may be considered as potentially growth inducing as well as cumulative impacts. Section 4.17 (Socioeconomics) describes the source for the employment projections assumed under the reuse alternatives. It is important to remember that, in effect, a number of the defined objectives of the project (see Section ~~4.0-2.0~~ in this EIR No. 573) seek to foster economic growth and job creation.

6.4 POTENTIAL GROWTH INDUCING IMPACTS ~~BY~~ ~~ALTERNATIVE~~

6.4.1 Potential Growth Inducing Impacts Of The Proposed Project ~~(Reuse Alternative A)~~

The Proposed Project would result in a net increase over existing conditions of 23,500 jobs at MCAS El Toro (an increase of 400 percent) and 1,258 jobs at JWA (a 60 percent increase) in 2020, based on the total number of new jobs minus the existing military jobs at MCAS El Toro and existing jobs at JWA.

With regard to direct growth inducing impacts, the ~~influence of the~~ proposed project ~~which~~ would generate approximately ~~35,800~~ 26,200 new jobs on the MCAS El Toro site and 3,300 jobs at JWA for a total of 29,500 jobs. The growth inducing impact of this increase in jobs would be greatest on nearby areas designated for urban development, or which are likely to become urban development property in the foreseeable future, but which are currently undeveloped. These include parcels of vacant land north, south and west of the MCAS El Toro site, some of which are currently in agricultural production. In the immediate vicinity of the MCAS El Toro site, in the area south of Loma Ridge, west of Limestone-Whiting Wilderness Park, north of the proposed alignment of Portola Parkway and west of the east leg of the Eastern Transportation Corridor (ETC), there are three distinct areas shown on the County of Orange Community Profile Map designated for low (1.2 dwelling units per acre (du/ac)) and medium (6.5 ~~1.4~~ du/ac) density residential uses. These combined areas cover well over 1,000 acres. There are no specific development plans for these areas at the present time. The buildout of the land uses under the proposed project ~~(Reuse Alternative A)~~ and the associated infrastructure improvements on the MCAS El Toro site would make it easier to develop these areas since utilities and services would be increased and improved in the area near ~~brought closer to~~ them.

It is important to recognize that most ~~some~~ of the land use designations in these areas, particularly the low density residential designations, are subject to ~~change as~~ the Natural Community Conservation Planning (NCCP) process. ~~evolves~~. The Reserve Design under the NCCP includes large parts of these areas as natural reserves, particularly Upper Rattlesnake Canyon and Hicks Canyon. Although the majority of the NCCP Reserve is committed to public ownership, the Reserve will set aside an additional 3,000 acres of land previously planned for residential use ~~entitled land~~ along the frontal slopes of Loma Ridge through separate dedication agreements so that it will not now be developed. However, development of new residential uses north, northwest, west and south of the MCAS El Toro site is more likely to occur in response to local and regional economic conditions and forces than in response to the development of other projects in the vicinity of the MCAS El Toro site. The Central/Coastal Orange County Subregion NCCP has now been adopted. This does not change the conclusions of this section.

With regard to indirect growth impacts, the estimated 24,758 ~~29,400~~ new jobs which could locate on the MCAS El Toro and JWA site under the proposed project would generate increased demand for goods and services. This increased demand for goods and services would create additional jobs in the surrounding region. In addition, it is expected that a portion of the visitors to Orange County that would use El Toro in the year 2020 would spend less time and money in Orange County ~~not visit the region~~ if commercial air service were not available at El Toro and they had to enter the region through another airport outside of Orange County (Technical Report No. 16, Economic Benefits Study, November 5, 1999). ~~This is due to expected constraints in the regional aviation system as existing and planned airports reach capacity. Based on a study of the employment and economic impacts of the reuse alternatives at MCAS El Toro (EPS, July 1996), this additional employment could amount to an estimated 112,800 jobs in Orange County, bringing the total estimated number of direct and indirect jobs generated under this reuse alternative to 148,600 compared to 11,500 jobs under continued military use.~~

Multiplier impacts will include increases in employment created by successive rounds of spending and re-spending of income generated by direct economic activities associated with development on the project site under the Proposed Project. Indirect and multiplier effects of the direct on-site jobs will create another 16,200 indirect and multiplier effect jobs by 2020, for a total of 45,700 jobs in Orange County being supported by economic activities occurring on El Toro and JWA. The average personal income of these direct, indirect and multiplier jobs is projected to be \$37,400, higher than the average personal income per job countywide (Technical Report No. 16, Economic Benefits Study, November 5, 1999).

In addition, visitors that use OCX and JWA will spend a portion of their trip duration in Orange County. During their stay, these visitors spend money on lodging, food and beverage, retail goods and services, recreation, and ground transportation. These expenditures support additional job growth in the vital tourism and business travel services sector of the Orange County economy. Airport activity will also generate additional expenditures by persons booking airline tickets using Orange County travel agents and by airline crews on layover in the County. By 2020, these expenditures in Orange County are expected to support 76,900 jobs (Technical Report No. 16,

Economic Benefits Study, November 5, 1999). Multiplier effects of these visitor expenditures will support another 23,500 jobs, for a total of 100,400 jobs supported by visitors using OCX and JWA. As is typical with the visitor service sector employment in Orange County and elsewhere, the average personal income due to these jobs is lower than the Countywide average, at \$22,600 per job (Technical Report No. 16, Economic Benefits Study, November 5, 1999).

In total, economic activity to be generated by aviation and nonaviation activities at OCX and JWA, as well as by tourism-related jobs generated by visitors to Orange County using OCX and JWA, are anticipated to support a total of 146,100 jobs County-wide by 2020 (Technical Report No. 16, Economic Benefits Study, November 5, 1999).

While the direct employment generated by the Proposed Project activity will be onsite at the OCX and JWA sites, the multiplier effect employment, as well as the visitor-related employment, will largely occur off the project site. Some of this indirect and multiplier effect employment will be located in areas adjacent to OCX and JWA, as well as at locations throughout the County. As noted in Section 4.17, the impacts of the Proposed Project related to inducing substantial growth or concentration of non-resident employee population cannot be mitigated to below a level of significance.

~~*Some of this indirect employment would locate in areas adjacent to, or in the vicinity of the MCAS El Toro site.*~~ It is anticipated that increased demand will be placed on the recreational, restaurant and other business and personal services available at the Irvine Spectrum area south and west of MCAS El Toro site and other areas to be developed in the future surrounding the MCAS El Toro site. This is a significant growth inducing impact of the proposed project. ~~*(Reuse Alternative A).*~~

Employees of the aviation, commercial, industrial, institutional and recreational uses on the MCAS El Toro site under the proposed project ~~*(Reuse Alternative A)*~~ are expected to be drawn from the existing and projected labor pool in the southern California region. Some employees may choose to relocate to housing closer to the MCAS El Toro site. This would occur over time, as the land uses under the proposed project ~~*(Reuse Alternative A)*~~ are developed. ~~*The resulting increased demand for housing over time would be satisfied by existing housing resources and new residential units that would be developed in the MCAS El Toro area.*~~ As noted in Section 4.17, impacts of the Proposed Project related to increased resident population growth and the related demand for all types and prices of housing in the surrounding area cannot be mitigated to below a level of significance. Based on the amount of planned and undeveloped residential land in the surrounding area, a substantial portion of this induced housing growth would be absorbed in residential projects currently under development. ~~*According to Economic and Planning Systems, Inc. (EPS, July 1996),*~~ There are approximately 51,000 ~~*55,000*~~ additional housing units available or yet to be built in residential planned communities. Impacts of the Proposed Project related to reducing the supply of available housing in the County, however, cannot be mitigated to below a level of significance. Regardless of the housing in the planned communities, the proposed project ~~*(Reuse Alternative A)*~~ will generate a need to develop, and would result in growth inducing impacts related to, housing.

The direct impacts of the Proposed Project will slightly reduce the forecasted jobs/housing ratio in a jobs-rich area relative to the adopted region growth forecasts; the Proposed Project will not result in significant adverse impacts related to the projected jobs/housing ratio.

The conclusion is different than the conclusion reached in Final EIR No. 563, which found that the CRP would have a significant adverse impact related to projected jobs/housing ratio. However, that finding was based on a comparison with the jobs/housing ratio expected under the previously adopted Orange County Projections 1992 Modified regional growth forecasts. Those forecasts have been superseded by Orange County Projections 1996 Modified (OCP-96 Modified), which was used in this analysis, and result in a revised finding of no significant adverse impact.

Another growth inducing effect associated with the proposed project (~~Reuse Alternative A~~) is the conversion of agricultural uses on the north and south side of the MCAS El Toro site to urban uses. Under the proposed project (~~Reuse Alternative A~~), a regional park and airport parking ~~and the Marshburn Retarding Basin~~ would replace the existing agricultural uses on the north part of the MCAS El Toro site. Business park uses would replace agricultural uses at the southern end of the site adjacent to the I-5 Freeway. ~~Research and development, light industrial and institutional land uses would replace the existing agricultural uses at the end of Runways 34L and 34R on the southern part of the base.~~ There will still be a loss of agricultural land, but 138.93 acres will be preserved for agriculture compared to no acres of agriculture in the CRP project. Conversion of these areas would reduce the total amount of agricultural land in unincorporated Orange County and could also negatively impact continued farming in the remaining agricultural areas in the vicinity of the MCAS El Toro site. Therefore, the conversion of this agricultural land will result in significant growth inducing impacts adversely affecting agricultural resources in this part of Orange County.

Under the proposed project (~~Reuse Alternative A~~), the total area within the 65 dB CNEL noise contour would ~~probably~~ be reduced compared to the Policy Implementation Line (PIL) identified for MCAS El Toro in the current Noise Element of the Orange County General Plan. See the discussion regarding the 65 dB CNEL contour ~~PIL~~ and related issues in Section 4.4 (Noise). The project includes a ~~If, ultimately, the~~ Noise Element amendment ~~is amended~~ to define a reduced 65 dB CNEL PIL; therefore, the ~~it is possible that~~ land uses outside the redefined PIL could be converted to different uses or could be developed essentially as they are designated in the existing General Plans. The areas most likely to be converted include Planning Areas 6, 9, and 33 of the City of Irvine's General Plan located northwest, west, and southwest of the MCAS El Toro site. These areas are currently restricted by the Airport Environs Land Use Plan due to military aircraft noise and accident potential zones, which will be reduced or eliminated under the Proposed Project.

For analysis purposes, Planning Area 9 is estimated to accommodate about 8,900 dwelling units (which would generate approximately 83,700 daily trips), Planning Area 6 is estimated to include 5,800 dwelling units (which would generate approximately 54,300 daily trips), and Planning Area 33 would accommodate about 1,200 dwelling units (which would generate approximately 8,600 daily trips). The total projected increase would be about 15,900 dwelling units and approximately 146,600 daily trips. This scenario represents one potential conversion approach of this area to

provide evidence of probable impacts. However, development plans have not been proposed at this time and, therefore, this scenario represents a preliminary estimate. Note that OCP-96 Modified, which was adopted by the Orange County Council of Governments and the Board of Supervisors in 1997, includes employment in Planning Areas 6 and 9 that was forecast to result from development of the CRP. ~~Approximately 650 acres of nonresidential land use areas could potentially be developed instead as residential or other noise sensitive uses, although this number could be larger or smaller depending upon the criteria used to select a redefined PIL. This potential land use conversion could also be reflected in the future average daily traffic (ADT) generated in these areas due to a different land use mix. With the approximate acreage identified above, the ADT in the area may decrease by 84,265 from the ADTs which would result from existing General Plan permitted land uses, based on typical trip generation factors assigned to those land uses.~~ This trip generation difference, when applied to the average trip length, in turn, has implications for vehicle miles travelled (VMT) and regional air pollutant emissions. These potential impacts are analyzed and discussed in Section 7.0 5.0 (Cumulative Impacts).

An analysis of the post-2020 traffic impacts ~~A discussion~~ of non-planned areas adjacent to the MCAS El Toro site, but within the existing PIL is ~~has been~~ included in Section 7.0 5.0 (Cumulative Impacts). These non-planned areas are currently designated for agricultural and open space uses, but may be proposed for other uses in the future. ~~Based upon the speculative nature of such changes, no significant adverse growth inducing impacts can be identified with certainty at this time.~~

7.0 SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

7.1 OVERVIEW

This section of this Environmental Impact Report (EIR) summarizes the potential significant unavoidable adverse impacts that could result from the implementation of the Proposed Project. These impacts are adverse impacts that cannot be avoided and that cannot be mitigated to below a level of significance based on implementation of the mitigation measures provided earlier in Chapter 4.0 (Environmental Setting, Impacts and Mitigation Measures) of this EIR. The summary of significant unavoidable adverse impacts provided in this section is based on the detailed environmental analysis provided earlier in Chapter 4.0.

The impacts of the Proposed Project found not to be significant or that can be mitigated to below a level of significance based on implementation of the mitigation measures described earlier in Chapter 4.0 of this EIR are discussed in the detailed environmental analysis provided earlier in Chapter 4.0.

7.2 SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS UNDER THE PROPOSED PROJECT

As described in detail earlier in Chapter 4.0, the Proposed Project is anticipated to result in the following significant adverse impacts that cannot be mitigated to below a level of significance after implementation of relevant existing regulations and the identified mitigation measures:

- Noise impacts due to increased aircraft operations and nighttime aircraft operations in the vicinity of the El Toro site.
- Noise impacts on the use of 1) the proposed on-site recreational facilities; 2) existing local parks and open space areas in the northern part of the City of Lake Forest; 3) future off-site trails, including portions of the future Borrego Canyon Bikeway, the future Jeffrey Road Bikeway, and the future Hicks Canyon Trail; and 4) portions of Class II on-road bikeways on Alton Parkway, Portola Parkway, Bake Parkway, and Lake Forest Drive.
- Loss of agricultural soils.
- Encouragement of use of large amounts of jet fuel when compared to the existing conditions.
- Short-term air quality impacts during construction.
- Public acute health impacts due to potential toxic air contaminant emissions during operation.
- Demand for all types and prices of housing, including low and moderate income housing, and impacts of inducing substantial growth or concentration of non-resident employee population, and reducing the supply of available housing in the County.

- **Air Quality:** short-term impacts during construction and long-term regional air quality impacts and local air quality impacts due to aircraft and associated operations at JWA and OCX.
- Public cancer risk and noncancer acute health hazard impacts due to potential toxic air contaminant (TAC) emissions during operation.
- Public health and safety risk of upset conditions if the County, despite every reasonable effort to lease or otherwise obtain the use of the Norwalk Pipeline and the Santa Fe Pipeline for the purpose of conveying jet fuel to the MCAS El Toro site, is unable to do so to the extent necessary to reduce the potential risk of upset impacts associated with highway truck transport of jet fuel to a level below significant.

The Proposed Project will also contribute to potentially significant cumulative adverse impacts related to: noise; air quality; toxic air contaminants; water quality; water; fossil fuels; and socioeconomic impacts related to low and moderate income housing; and impacts of inducing substantial growth or concentration of non-resident employee population, and reducing the supply of available housing in the County to low and moderate income housing. The Proposed Project's contribution to cumulative impacts in the areas of traffic, biological resources, and hydrology/water quality are reduced to below a level of significance with the proposed mitigation measures.

7.3 SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS IF MITIGATION BY OTHER ENTITIES IS NOT IMPLEMENTED

The following environmental impacts would remain significant after mitigation in the event that other public agencies and/or entities partially or wholly responsible for the mitigation measures provided in Section 6.4 do not implement those measures:

- Project related land use incompatibility with General Plans of adjacent jurisdictions and/or planned land uses of adjacent landowners (ref. Mitigation Measure LU-2).
- Land use impacts of the Proposed Project to surrounding cities (ref. Mitigation Measure LU-3).
- Undesirable land uses or developments (ref. Mitigation Measure LU-6).
- Inconsistency with SCAG Core RTP Objective – Meet Air Plan Emissions Budgets (ref. Mitigation Measure GPC-4).
- Lack of Airport Land Use Commission approval of the ASMP (ref. Mitigation Measure GPC-1).
- Potential zoning inconsistencies with future development proposals within the Proposed Project's 65 CNEL contour (ref. Mitigation Measure GPC-2).
- Inconsistency of the Proposed Project with the City of Irvine's General Plan designations for the portion of the former MCAS El Toro site within the City's jurisdiction (ref. Mitigation Measure GCP-3).

- Intersection and arterial circulation impacts in non-County jurisdictions for which the County would be responsible for partial contribution to the improvements (ref. Mitigation Measure T-4).
- Circulation impacts to highways not under the sole control of the County (Mitigation Measure T-9).
- Circulation impacts related to project facilities that connect to right-of-way or property under the jurisdiction of non-County entities (ref. Mitigation Measure T-10).
- Noise impacts upon existing sensitive land uses (Mitigation Measure N-1).
- Traffic noise impacts at portions of Trabuco Road between Yale and Jeffrey Road and along Jeffrey Road south of Irvine Boulevard (ref. Mitigation Measure N-6).
- Public cancer risk and noncancer acute health hazard impacts due to potential toxic air contaminant (TAC) emissions during operation.
- Noise impacts from project construction in incorporated off-site areas (ref. Mitigation Measure N-7).
- Impacts to existing wells and pipelines owned by The Irvine Company (ref. Mitigation Measure U-4).
- Impacts to transit services (connection to the Irvine Transportation Center) (ref. Mitigation Measure PS-4).
- Loss of prime agricultural land that would otherwise be preserved as agricultural by County Sheriff-Coroner's Department (ref. Mitigation Measure NRE AG-1).
- Potential unavailability of agricultural lands for lease (ref. Mitigation Measure NRE AG-2).
- Inconsistency with the Southern California Association of Governments Regional Plan Population, Housing and Employment Growth Forecasts (ref. Mitigation Measure SE-1).
- Potential risk of upset due to highway truck transport of jet fuel (Mitigation Measure RU-1).
- Project related cumulative traffic and circulation impacts (ref. Mitigation Measure T-12).
- Inconsistency with the County's Master Plan of Arterial Highways relative to cumulative long-range circulation improvements (ref. Mitigation Measure T-13).

8.0 ALTERNATIVES

8.1 INTRODUCTION

8.1.1 Final EIR No. 563 Alternatives

Final Environmental Impact Report (EIR) No. 563 for the Community Reuse Plan (CRP) for the Marine Corps Air Station (MCAS) El Toro considered a number of possible reuse alternatives including:

- i) Reuse Alternative A, which proposed a commercial passenger and cargo airport at El Toro, surrounded by nonaviation uses including a Habitat Reserve,¹ educational and institutional uses, residential uses, recreation and open space uses, research and development/light industrial uses, a meeting center, mixed retail/office/commercial uses, office and conference center uses, and multimodal surface transportation center. Reuse Alternative A assumed commercial operations at JWA would cease. The County of Orange Local Redevelopment Authority (LRA) adopted Reuse Alternative A as the CRP.
- ii) Reuse Alternative B, which proposed a commercial airport limited to cargo and general aviation operations at the MCAS El Toro site, surrounded by nonaviation uses including a Habitat Reserve, educational and institutional uses, residential uses, recreation and open space uses, research and development/light industrial uses, office and conference center uses, and a multimodal surface transportation center. Reuse Alternative B assumed all commercial passenger operations would be provided by JWA.
- iii) Reuse Alternative C, which proposed a wide range of nonaviation uses at El Toro, including a Habitat Reserve, visitor oriented attractions, residential uses, recreation and open space uses, research and development/light industrial uses, educational and institutional uses, mixed retail/office/commercial uses and a multimodal surface transportation center. Reuse Alternative C assumed all commercial, cargo and general aviation passenger operations would be provided by JWA.
- iv) No Project Alternative D, which assumed the military would retain ownership and operation of the MCAS El Toro site and that operations would continue at 1994 levels.
- v) No Development Alternative E, which assumed the military would leave the site and the site would be vacant and unplanned.

¹ The 970 acre Habitat Reserve in Planning Area 6 is subject to a federal agency to federal agency transfer, and is not part of the Proposed Project.

Final EIR No. 563 also considered secondary alternatives to Alternatives A and B, which essentially considered different airport configurations or operating conditions compared to Alternatives A and B. Final EIR No. 563 also considered alternative sites for the proposed airport use, as described in detail later in Section 8.12.5.1 (Alternative Sites Evaluated in Final EIR No. 563). Section 15126.6(f)(2)(c) of the CEQA Guidelines permits reliance in this document on the analysis provided in EIR No. 563:

“Limited new analysis required. Where a previous document has sufficiently analyzed a range of reasonable alternative locations and environmental impacts for projects with the same basic purpose, the lead agency should review the previous document. The EIR may rely on the previous document to help it assess the feasibility of potential project alternatives to the extent the circumstances remain substantially the same as they relate to the alternative.”

8.1.2 ASMP Alternatives

With the starting point of the CRP and the Board’s direction to develop a two airport system, the Airport System Master Plan (ASMP) analyzed a broad range of airport development options for MCAS El Toro and JWA. Preliminary screening of these options described “families” of potential airport system solutions, and consisted of two components for each airport:

- i) an airport role (type of service provided) and
- ii) airport facility improvements.

Technical Report 6, Alternatives Definition Report, developed in April, 1998, was prepared to analyze preliminary screening scenarios that cover a broad range of possible airport system options for Orange County. Other documents used to conduct the alternatives analysis include: Working Paper 2, *List of Preliminary Project Planning Issues*; Technical Report 1, *Airport System Feasibility*; Technical Report 2, *Planning and Performance Parameters*; Technical Report 3, *Existing Facilities*; and Technical Report 4, *Aviation Demand Forecasts*. The selection of alternatives analyzed by the ASMP (and also the present EIR) focused on alternatives to the Proposed Project which meet the planning goals and criteria established by the following:

- i) Orange County Board of Supervisors December 11, 1996, Resolution No. LRA R96-02, which adopted the Community Reuse Plan (CRP) for MCAS El Toro and initiated the ASMP.
- ii) Policies established in the Orange County General Plan by Measure A, approved in 1994.
- iii) The need, as part of the Master Development Program (MDP) planning process, to address issues of unique importance to the planning of an airport system in Orange County.

- iv) The need to address issues of special importance to the public and the Board of Supervisors.
- v) California Environmental Quality Act (CEQA) criteria for the definition of alternatives.

Please see the ASMP (Technical Report 17) for a complete description of the ASMP alternatives evaluation.

8.1.3 Introduction to EIR Alternatives

Section 15126.6(a) of the CEQA Guidelines indicates the scope of alternatives to a Proposed Project that must be evaluated:

“An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decisionmaking and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.”

As described in detail earlier in Chapter 4.0, the Proposed Project is anticipated to result in significant adverse impacts that cannot be mitigated to below a level of significance after implementation of relevant standard conditions of approval, regulations, and mitigation measures. In summary, these unavoidable impacts are as follows:

- Significant adverse noise impacts due to increased aircraft operations and nighttime aircraft operations.
- Significant unavoidable adverse noise impacts to the use of 1) the proposed on-site recreational facilities; 2) existing local parks and open space areas in the northern part of the City of Lake Forest; 3) future off-site trails, including portions of the future Borrego Canyon Bikeway, the future Jeffrey Road Bikeway, and the future Hicks Canyon Trail; and 4) portions of Class II on-road bikeways on Alton Parkway, Portola Parkway, Bake Parkway, and Lake Forest Drive.
- Significant loss of agricultural resources.
- Short-term air quality impacts during construction.

- Significant adverse impact to public health due to potential toxic air contaminant emissions during operation.
- Significant adverse impacts related to the demand for all types and prices of housing, including low and moderate income housing, and impacts of inducing substantial growth or concentration of non-resident employee population, and reducing the supply of available housing in the County.

The Proposed Project will contribute to potentially significant cumulative adverse impacts related to: land use related to the change in the area covered by the 65 dBA CNEL contour; noise; air quality; water quality; energy resources; water; and socioeconomic impacts related to low and moderate income housing; and impacts of inducing substantial growth or concentration of non-resident employee population, and reducing the supply of available housing in the County to low and moderate income housing.

In this light, this chapter presents a reasonable range of alternatives to the Proposed Project. These alternatives include the following:

- i) No Project/No Activity
- ii) ETRPA Nonaviation Plan Alternative
- iii) Alternative A: JWA – Status Quo Aviation Roles (Reduction to 6 Million Annual Passengers or MAP); OCX – Full Domestic Service Airport (19 MAP)
- iv) Alternative C: JWA Short-Haul Domestic (10.1 MAP); OCX – Full International Service Airport, excluding Short-Haul Domestic (23.4 MAP)
- v) Alternative F: JWA – Short, Medium and Limited Long Haul Passenger and Cargo Service with No Operational Limitations and No General Aviation Use (14 MAP); OCX – No Aviation Reuse
- vi) Alternative G: JWA – General Aviation and Cargo/Passenger Service from Short Haul to Limited International (25 MAP); OCX – No Aviation Reuse
- vii) Alternative H: JWA – Status Quo (10.8 MAP); OCX – Limited Use (10 MAP) Domestic Service Airport
- viii) Alternative I: JWA – Status Quo Aviation Roles (7 MAP); OCX – Limited Use (15 MAP) Domestic Service Airport
- ix) Alternative J: JWA – Reduced Service (5.4 MAP); OCX – Full International Service Airport at OCX at (28.8 MAP) with Widely Separated North/South (N/S) Runways
- x) Alternative OCX Airport Runway Layout (Wildlands Ranch Plan Alternative)
- xi) Land Use Alternatives at OCX – Nonaviation Land Use Component
- xii) Alternative K: Off-Site Alternatives (JWA 8.4 MAP)
- xiii) Alternatives Considered, But Rejected
- xiv) For comparison purposes, the data regarding the CRP, as adopted in December, 1996, are carried forward.

As indicated above, this section also presents a number of alternatives to the Proposed Project not carried forward for further analysis and the rationale for their exclusion. Table 8.1-1 provides a summary comparison of the aviation characteristics, trip generation, vehicle miles traveled, aircraft noise impacts, and air quality emissions for existing conditions and each alternative analyzed herein. In addition, the last part of this section presents a matrix comparison of the environmental impacts of the alternatives considered in detail.

A summary of the aviation activity under the Proposed Project and the aviation alternatives to be carried forward is provided in Table 8.1-2.

Table 8.1-1
Summary Comparison of Principal Aviation Characteristics and Major Impacts for the CRP, Existing Conditions and Alternatives

	CRP Alt. A	Existing Conditions	No Project	Alternatives											Land Use	K
				Proposed Project	ETRA	A	C	F	G	H	J	J	Alternative OCK Runway Bridge			
SUMMARY OF AVIATION CHARACTERISTICS																
Billions Annual Passengers (BAP)																
OCK	38.3	6	0	28.8	0	19	23.4	0	6	10	15	28.8	See Analysis	28.8	0	
JWA	0	7.5	8.4	5.4	8.4	6	10.1	14	25	10.8	7	5.4	See Analysis	5.4	8.4	
Total	38.3	7.5	8.4	34.2	8.4	25	33.5	14	25	20.8	22	34.2	See Analysis	34.2	8.4	
Annual Aircraft Operations																
OCK	447,000	30,217	0	308,600	0	252,400	191,800	0	0	314,300	299,900	308,600	See Analysis	308,600	0	
JWA	375,000	417,725	462,600	426,700	462,000	432,200	466,200	112,000	347,600	319,800	448,100	426,700	See Analysis	426,700	462,600	
Total	822,000	447,942	462,600	735,300	462,000	684,700	658,000	172,100	347,600	634,100	658,000	735,300	See Analysis	735,300	462,600	
SUMMARY OF MAJOR IMPACTS																
Transmission																
EI Tonn Site ADT Generated	305,240 ⁽¹⁾	25,400	0	176,123	191,322	138,157	152,273	391,322 ⁽²⁾	391,322	109,800	142,400	176,123	See Analysis	150,222 ⁽³⁾	0	
JWA ADT Generated	0	47,450	51,706	32,690	51,706	36,274	48,876	23,943	116,424	48,290	44,000	32,690	See Analysis	32,690	51,706	
Regional Vehicles Miles Traveled	NA	321,927,797	442,837,642	442,069,732	442,787,665	442,115,204	See	442,679,260	442,351,639	442,289,168	442,158,695	See	See Project Data	See Project Data	See Project Data	
Regional Trunk Miles Traveled	NA	404,798	494,177	502,388	506,371	501,478	Project	494,777	498,585	501,478	501,478	Project	See Project Data	See Project Data	See Project Data	
Noise (No. of Residents Within Each CNEL)																
OCK CNEL 70	0	0	0	0	0	0	0	0	0	0	0	0	See Analysis	0	0	
OCK CNEL 65	318	0	0	0	0	0	0	0	0	0	0	515	See Analysis	0	0	
OCK CNEL 60	2,034	0	0	1,837	0	1,312	787	0	0	394	787	3,411	See Analysis	1,837	0	
JWA CNEL 70	0	0	0	0	0	0	0	0	446	0	0	0	NA	0	0	
JWA CNEL 65	0	134	236	70	236	70	236	184	1,863	236	236	79	NA	79	236	
JWA CNEL 60	0	682	997	577	997	557	1,823	997	6,954	1,023	997	577	NA	577	997	
Total CNEL 70	0	0	0	0	0	0	0	0	446	0	0	0	See Analysis	0	0	
Total CNEL 65	318	134	236	70	NA	79	236	184	1,863	236	236	664	See Analysis	79	236	
Total CNEL 60	2,034	682	997	2,414	NA	1,869	1,810	997	6,954	1,417	1,784	3,988	See Analysis	2,414	997	
Air Quality (Data are the change from No Project)⁽⁴⁾																
Air Quality Regional Pollutant Emissions (Tons/Day)																
CO	-598 ⁽⁵⁾	1,521,279	2,971,017	-34,789	-42,954 ⁽⁶⁾	-31,068	-15,724	-8,522	-20,958	No New Data	No New Data	See Project Data	See Analysis	See Project Data	See No Project Data	
NOx	-4,220	488,451	397,999	-5,310	-7,951	-6,585	-5,898	-2,459	-5,319	Available	Available	See Project Data	See Analysis	See Project Data	See No Project Data	
ROC	3,636	100,215	86,629	-3,698	9,445	-3,269	-2,546	-1,037	-2,530	Available	Available	See Project Data	See Analysis	See Project Data	See No Project Data	
SOx	-53,499	44,867	57,082	40	-53,485	-139	85	-89	-273	Available	Available	See Project Data	See Analysis	See Project Data	See No Project Data	
PM10	-1,100	8,863	11,428	-225	-1,836	-240	-320	-10	29	Available	Available	See Project Data	See Analysis	See Project Data	See No Project Data	

* This information has been updated from the Draft EIR to reflect the analyses in the USA
 (1) CRP impacts are for the E1 Tonn site only. JWA is not included.
 (2) Alternatives F and G would result in a maximum plus of E1 Tonn such as the ETRFA Alternative
 (3) ADT for 1107. 1111 ADT is measured at 15.0M
 (4) Source: FERM No. 361 - these data are not directly comparable due to differences in methodology
 (5) Includes emissions at other regional airports for the No Project scenario



**Table 8.1-2
Summary of Aviation Activity at Orange County Airports Under Alternative Airport System Development Scenarios**

Type of Operation	Proposed Project ¹ 2020			Alternative A 2020			Alternative C 2020			Alternative E 2020		
	OCX	JWA	Total	OCX	JWA	Total	OCX	JWA	Total	OCX	JWA	Total
Air Passengers (millions)												
Domestic	20.6	5.4	26.0	18.7	6.0	24.7	14.0	10.1	24.1	--	8.4	8.4
International	8.2	--	8.2	0.3	--	0.3	9.4	--	9.4	--	-	--
Total	28.8	5.4	34.2	19.0	6.0	25.0	23.4	10.1	33.5	--	8.4	8.4
Air Cargo (millions U.S. tons)												
Domestic	1.19	0.02	1.21	1.21	0.02	1.23	1.18	0.05	1.23	--	0.05	0.05
International	0.82	--	0.82	0.04	--	0.04	0.84	--	0.84	--	--	--
Total	2.01	0.02	2.03	1.25	0.02	1.28	2.02	0.05	2.07	--	0.05	0.05
Based Aircraft	14	570	584	20	567	587	9	503	512	--	582	582
Aircraft Operations												
Passenger	251,100	67,500	318,600	196,000	75,100	271,100	150,200	147,000	297,200	--	95,100	95,100
All-Cargo	26,600	--	26,600	22,600	--	22,600	26,000	--	26,000	--	--	--
General Aviation	22,000	359,000	381,000	33,000	357,000	390,000	15,000	317,000	332,000	--	366,700	366,700
Military	900	200	1,100	800	200	1,000	600	200	800	--	200	200
Total	300,600	426,700	727,300	252,400	432,300	684,700	191,800	464,200	656,000	--	462,000	462,000

¹ Alternative J has the same activity levels as the Proposed Project.

**Table 8.1-2
Summary of Aviation Activity at Orange County Airports Under Alternative Airport System Development Scenarios**

Type of Operation	Alternative F 2020			Alternative G 2020			Alternative H 2020			Alternative I 2020		
	OCX	JWA	Total	OCX	JWA	Total	OCX	JWA	Total	OCX	JWA	Total
Air Passengers (millions)												
Domestic	--	14.0	14.0	--	24.7	24.7	9.9	10.8	20.7	14.8	7.0	21.9
International	--	--	--	--	0.3	0.3	0.1	--	0.1	0.2	-	0.2
Total	--	14.0	14.0	--	25.0	25.0	10.0	10.8	20.8	15.0	7.0	22.0
Air Cargo (millions U.S. tons)												
Domestic	--	0.18	0.18	--	1.23	1.23	1.06	0.05	1.11	1.15	0.03	1.18
International	--	--	--	--	0.04	0.04	0.03	--	0.03	0.04	--	0.04
Total	--	0.18	0.18	--	1.28	1.28	1.09	0.05	1.14	1.19	0.03	1.22
Based Aircraft	--	--	--	--	20	20	294	293	587	12	567	579
Aircraft Operations												
Passenger	--	161,700	161,700	--	273,900	273,900	106,300	135,100	241,400	159,400	90,700	250,100
All-Cargo	--	3,700	3,700	--	28,300	28,300	22,600	--	22,600	22,600	--	22,600
General Aviation	--	6,600	6,600	--	45,300	45,300	185,200	184,600	369,800	27,300	357,200	384,500
Military	--	100	100	--	100	100	100	100	200	600	200	800
Total	--	172,100	172,100	--	347,600	347,600	314,200	319,800	634,000	209,900	448,100	658,000

8.2 NO PROJECT/NO ACTIVITY ALTERNATIVE (ALTERNATIVE E): JWA – STATUS QUO AVIATION ROLES; NO AVIATION REUSE AT FORMER MCAS EL TORO

This section presents the potential impacts of the No Project/No Activity Alternative as measured against the existing setting, as well as a comparison of the alternative's impacts to those of the Proposed Project at build out. In those instances in which the comparison of the alternative to the Proposed Project is materially affected by the phasing of the project, i.e., in those instances in which the impacts of the Proposed Project during the phasing years are materially different from those impacts at year 2020, a comparison of the alternative's impacts to those of the Proposed Project for the applicable phasing year is also provided.

8.2.1 Aviation Uses

Under the No Project/No Activity Alternative, JWA would continue to operate as it does presently, providing general aviation service, short- and medium-haul domestic passenger service (with limited long-haul service), and very limited all-cargo service. JWA would be constrained to 8.4 MAP in the year 2020 under this alternative. There would be no aviation reuse of MCAS El Toro, and the site would remain vacant and undeveloped. Therefore, aviation demand projected to use Orange County airports under the Proposed Project would need to use other airports in the region. This is discussed further in Section 8.2.4.1 below.

8.2.2 Nonaviation Revenue Support Uses

Under the No Project/No Activity Alternative, the MCAS El Toro would remain vacant and undeveloped, with no nonaviation uses.

8.2.3 Attainment of Project Objectives

This alternative would not meet any of the general project objectives identified in Chapter 2, Section 2.3 ~~3.0~~ regarding base redevelopment. This alternative would not meet the aviation objectives relating to passenger and cargo demand, service opportunities, industry competition, economic growth, business activities, existing land use restrictions, or General Plan implementation. The No Project/No Activity Alternative would meet or partially meet the aviation objective relating to general aviation by maintaining GA uses at JWA.

8.2.4 Environmental Impacts of the No Project/No Activity Alternative

8.2.4.1 Land Use

A vacant and undeveloped site at MCAS El Toro would be incompatible with adjacent or nearby land uses. No activity at the El Toro site would be inconsistent with the Base Realignment and Closure (BRAC) objectives to transfer closed bases and mitigate economic losses in the community. No activity would eliminate revenue to the United States Department of Defense (DOD) to offset maintenance. No activity would lead to decay and vandalism. This alternative is comparable to the Proposed Project at JWA in that no significant adverse impacts to land use would occur. This alternative would not avoid or lessen impacts compared to the project.

As discussed at the outset of this section, under the No Project/No Activity alternative, aviation demand projected to use Orange County airports under the Proposed Project would need to use other airports in the region. To evaluate the ability of the regional aviation system to accommodate this additional demand, the allocation model used to project commercial aviation demand at each airport in the region for the Proposed Project in 2020 was used to forecast and analyze the redistribution of regional demand under the No Project/No Activity Alternative. The model and assumptions used to project demand under the Proposed Project is documented in *Appendix B, Technical Report 6, Alternatives Definition Report*, April 17, 1998, revised October 15, 1999.

Additional research was undertaken in late 1998 to identify potential constraints at commercial service airports in the region that might affect their ability to accommodate future commercial aviation demand. This research found that capacity at three other airports in the region could be limited due to existing airfield or other constraints, as follows:

- (i) LAX: limited to 96 MAP based on alternatives under consideration in the LAX Master Plan.
- (ii) Ontario International Airport: limited to 20 MAP based on potential existing airfield capacity.
- (iii) Burbank Airport: limited to 15 MAP based on potential runway capacity and other information provided by airport staff.

No other airports in the region were determined to be capacity limited when compared to potential levels of demand. These assumptions were incorporated into the No Project forecast and the model was rerun. The No Project forecast shows that demand at other airports would increase to absorb demand not accommodated at OCX.

The increase in passenger demand at other airports in the region over the level anticipated under the Proposed Project will increase the number of commercial aircraft operations at

these airports, causing associated increases in the noise from these aircraft operations (see Table 8.2-1 below). The increased travel distances and times required for some passengers to reach these alternative airports would also affect regional transportation and circulation, as well as air quality. These issues are discussed below.

**Table 8.2-1
Residential and School Land Uses Within 65 CNEL**

Airport	Residential Units	Number of People	Schools
San Diego (1998)	10,300	25,400	8
Burbank	1,400 (Dec. 1998)	4,140 (Dec. 1998)	4 (mid-1989 forecast for 2000)
Oxnard (forecast for 2003)	56	193	0
John Wayne Airport	134	300	0
LAX	31,335	84,054	36 ¹
OCX (2020)	0	0	0

Sources: JWA: Noise Abatement Quarterly Report, June 30, 1998.

LAX: Quarterly Report, Second Quarter 1998

¹ Total schools estimated from land use map, 1 not insulated, 35 are sound insulated.

8.2.4.2 General Plan Consistency

This alternative would be incompatible with Policies 13.1 through 13.7 of the County Land Use Element and Policy 5 of the County Public Services and Facilities Element regarding MCAS El Toro as regulated by Measure A. Amendments to the AELUP, Noise Element, Safety Element, and possibly the Land Use Element would be necessary to reflect that the aviation noise contours and associated land use restrictions would no longer be applicable around the El Toro site. Therefore, this alternative would have greater adverse impacts related to General Plan consistency than the Proposed Project. This alternative would not avoid or lessen impacts compared to the project.

8.2.4.3 Transportation and Circulation

The transportation and circulation impacts for the No Project/No Activity Alternative were analyzed based on existing roadway conditions plus committed improvements and OCP-96 development growth for 2020. The AM and PM peak hour and ADT traffic generated by JWA and the former MCAS El Toro site under 2020 No Project/No Activity conditions is summarized in Table 8.2-2. Refer to Section 14.0 in the Traffic Analysis Technical Report (Appendix D) for detailed information on the methodology applied to produce trip generation estimates for the No Project/No Activity Alternative, and for detailed summaries of the No Project/No Activity Alternative traffic volumes and associated LOS for the circulation system in the traffic analysis study area.

**Table 8.2-2
Trip Generation Summary - No Project/No Activity Alternative**

Project Component	AM Peak Hour			PM Peak Hour			ADT	Existing ADT
	In	Out	Total	In	Out	Total		
El Toro Site	0	0	0	0	0	0	0	25,400
JWA	1,552	1,037	2,589	2,047	2,050	4,097	51,706	47,450
Total	1,552	1,037	2,589	2,047	2,050	4,097	51,706	72,850

In conclusion, the No Project/No Activity Alternative would result in no new or additional local impacts related to transportation and circulation. In comparison, as discussed in detail in Section 4.3.6.6 of this Draft EIR No. 573, as supplemented, under the Proposed Project phasing years, four intersection locations, two arterial roadway segments, one continuous freeway mainline segment, and one freeway ramp would be significantly impacted under Phase 1 conditions (2005); five intersection locations, two arterial roadway segments, one continuous freeway mainline segment, and one freeway ramp would be significantly impacted under Phase 2 conditions (2010); and nine intersection locations, two arterial roadway segments, one continuous freeway mainline segment, and two freeway ramps would be significantly impacted under Phase 3 conditions (2015). At Phase 4 build out, the Proposed Project would result in significant impacts not previously identified at four freeway/tollway mainline segments and four freeway tollway ramps. See Supplemental Analysis, Section 4.3.6.5. In each case, however, the identified impacts will be mitigated to a level below significant during the applicable phasing year (see Section 4.3.7.2, Table 4.3-20).

This alternative would avoid the transportation and circulation impacts of the Proposed Project at the El Toro and JWA sites. However, regional vehicle miles traveled would be greater than the Proposed Project under this alternative. Since the impacts of the Proposed Project would be mitigated to a level of insignificance, this alternative would not avoid a significant impact; however, this alternative would reduce less than significant highway impacts near the El Toro site. In conclusion, the increase in VMT due to this alternative would result in a worse impact than the Proposed Project, and this impact would not be mitigatable except through expansion of airport facilities in the County.

8.2.4.4 Noise

Aircraft Noise

This alternative will not result in an increase in aircraft generated CNEL or SENEL contours at the MCAS El Toro site since no airport would be developed on the MCAS El Toro site. No airport expansion would occur at JWA, and the CNEL contours would be expected to increase over 1998 conditions in proportion to the anticipated growth in activity to JWA's currently authorized service level. This alternative would, however, lead to an increase in the 65 dB CNEL contour at regional airports (see Section 8.2.4.1), which would increase the existing adverse impacts of these airports on noise sensitive land uses (Table 8.2-1).

Therefore, compared to the Proposed Project, this alternative would avoid aviation noise at the El Toro site, but would increase aviation noise impacts on a regional basis.

Ground Transportation

The Proposed Project Noise Study analyzed the potential increase in noise on the road network surrounding the El Toro site and JWA for this alternative. The Federal Highway Administration standard (an increase of 1.5 dB) for a significant noise increase was used in this study. This alternative would not increase noise levels for any roadway link. In comparison, under the Proposed Project, while roadway noise impacts at two roadway links will be significant, these impacts will be reduced to a level below significance with project mitigation.

8.2.4.5 Air Quality

The air quality impacts of the No Project/No Activity Alternatives were identified by analyzing the short-term impacts (construction), regional air quality impacts (total air pollutants emissions), local air quality impacts due to traffic carbon monoxide (CO), and local impacts due to aircraft and associated operations under each development scenario (i.e., Phase 1, Phase 2, Phase 3, and Phase 4).

As summarized below, the No Project/No Activity Alternative would result in greater regional air quality impacts caused by motor vehicle, aircraft, and aviation related activity emissions when compared to the Proposed Project. These impacts would be greater in all phasing years than under the Proposed Project's development scenarios. The reason for these increased air quality impacts results primarily because aviation related activity would reach or exceed the operating capability of many regional airports producing significant delay. Under the Proposed Project condition, air traffic would be efficiently accommodated at JWA and OCX. The No Project/No Activity Alternative, however, would avoid the significant and unavoidable construction impacts of the Proposed Project, the significant and unavoidable local air quality impacts due to aircraft operations at OCX and JWA, and the significant and unavoidable toxic air contaminant impacts of the Proposed Project.

Short-Term Air Quality Impacts (Construction)

Under this alternative, no runway improvements at JWA would be necessary, and there would be no aviation reuse of MCAS El Toro. Additionally, no nonaviation land uses are planned for the El Toro and JWA sites under this alternative. Therefore, short-term construction emissions under this alternative would be less than those of the Proposed Project during any development phase and would not be significant. Similarly, peak daily local emissions, including both equipment exhaust and fugitive dust, would be less than those of the Proposed Project under all development phases and would not be significant. Therefore, compared to all phases of the Proposed Project, this alternative would avoid significant and unavoidable local construction emission impacts of the Proposed Project.

Operational Air Quality Impacts

Emissions Inventories

Emissions projected to occur under the No Project/No Activity Alternative in Phase 2 and Phase 4 of project development in comparison to the Proposed Project are shown in Tables 8.2-3A and 8.2-3B, respectively. As can be seen from the tables provided, the No Project/No Activity Alternative would result in operational emissions impacts that exceed the Proposed Project. Although there is sufficient existing capacity at airports in the region to absorb the projected unconstrained demand without expansion of runway capacity in Orange County, the failure to provide sufficient airport capacity in Orange County to meet the locally generated demand will result in greater average highway trip lengths and, therefore, increased vehicle miles traveled (VMT) by air passengers and shippers. In addition, accommodating future demand without the project at other Basin airports would increase average delay time at those airports. This would result in increased aircraft emissions due to longer taxi times and LTO cycle times. Longer aircraft taxi times generate major increases in the amount of aircraft emissions. Therefore, for the No Project/No Activity Alternative, emissions at other regional airports would be higher per operation than at OCX. All of these factors would result in significant regional air quality emissions for the No Project/No Activity Alternative that exceed the Proposed Project in all phasing years.

Dispersion Analysis

An airport emissions dispersion analysis was conducted for JWA for the No Project/No Activity Alternative. Tables 8.2-4 and 8.2-5 show that no local criteria pollutant hot spots from airport operations were found under this project alternative in Phase 2. In Phase 4, however, there would be one exceedance of the State 1-hour NO₂ standard of Executive Park. Therefore, the No Project/No Activity Alternative would result in a significant local air quality impacts in Phase 4. In comparison, under the Proposed Project, there will several exceedances of the 1-hour State standard for NO₂ projected at OCX and JWA and continued exceedances of the State 24-hour standard for PM₁₀ projected at OCX and JWA. Therefore, the No Project/No Activity Alternative would avoid a number of significant and unavoidable local air quality impacts due to aircraft operations at OCX and JWA.

For the No Project/No Activity Alternative, at intersections in the vicinity of JWA, the CAL3QHC model was used to assess the CO concentration.

Tables 8.2-6 and 8.2-7 show that the 1-hour and 8-hour CO concentrations would be below the State and federal CO standards. Therefore, no CO hot spots would occur from vehicular traffic trips under this alternative. Similarly, under the Proposed Project, no CO hot spots would occur from vehicular traffic trips.

**Table 8.2-3A
Regionwide Emissions Inventory Phase 2 Proposed Project/No Project (Pounds/Day Unless Noted)**

No Project (Phase 2)							Proposed Project (Phase 2)						
	CO	NO _x	ROC	SO _x	PM ₁₀		CO	NO _x	ROC	SO _x	PM ₁₀		
Aircraft	El Toro	--	--	--	--	Aircraft	El Toro	5,175.48	7,877.30	790.56	548.57	96.08	
	JWA	7,237.35	3,117.14	415.07	246.83		JWA	5,749.19	1,267.48	279.81	107.33	22.53	
	Other Airports	64,338.22	70,647.13	9,401.21	5,385.93		Other Airports	57,217.05	62,802.79	8,350.06	4,785.16	683.42	
	Total Regional	71,575.57	73,764.27	9,816.28	5,632.76		Total Regional	68,141.72	71,947.57	9,420.43	5,439.67	802.03	
GSE	El Toro	--	--	--	--	GSE	El Toro	12,598.35	1,115.99	366.61	55.33	44.04	
	JWA	5,914.70	634.43	181.56	16.21		JWA	3,055.02	422.61	104.15	11.35	18.62	
	Other Airports	90,189.58	9,056.56	2,668.50	586.59		Other Airports	80,258.25	8,059.30	2,374.68	522.02	295.52	
	Total Regional	96,104.28	9,690.99	2,850.06	602.80		Total Regional	95,911.62	9,597.90	2,845.44	588.70	358.18	
Energy	El Toro	--	--	--	--	Energy	El Toro	70.90	407.70	3.80	41.80	14.00	
	JWA	20.30	117.10	1.10	12.00		JWA	14.70	84.60	0.80	8.70	2.90	
	Others	492.00	2,832.00	26.00	290.00		Others	438.00	2,522.00	24.00	257.10	86.00	
	Total Regional	512.30	2,949.10	27.10	302.00		Total Regional	523.60	3,014.30	28.60	307.60	102.90	
Fuel	El Toro	--	--	--	--	Fuel	El Toro	--	--	48.94	--	--	
	JWA	--	--	10.23	--		JWA	--	--	4.76	--	--	
	Other Airports	--	--	472.61	--		Other Airports	--	--	420.57	--	--	
	Total Regional	--	--	482.84	--		Total Regional	--	--	474.27	--	--	
Airport Roadways	El Toro	--	--	--	--	Airport Roadways	El Toro	475.88	87.12	29.98	4.16	4.87	
	JWA	147.64	18.07	8.41	0.55		JWA	70.22	8.96	4.04	0.30	0.56	
	Other Airports	3,864.54	803.26	271.90	37.98		Other Airports	4,811.43	871.30	311.48	38.49	47.16	
	Total Regional	4,012.18	821.33	280.31	38.53		Total Regional	5,357.53	967.38	345.50	42.95	52.59	
Airport Parking	El Toro	--	--	--	--	Airport Parking	El Toro	335.87	30.36	9.89	2.98	2.77	
	JWA	120.73	9.92	16.28	3.01		JWA	56.58	4.66	7.63	1.41	0.13	
	Other Airports	2,492.05	226.97	43.40	51.64		Other Airports	2,217.64	201.98	38.63	45.95	18.14	
	Total Regional	2,612.78	236.89	59.68	54.65		Total Regional	2,610.09	237.00	56.15	50.34	21.04	
Roads	El Toro	--	--	--	--	Roads	El Toro ¹	17,062.00	5,280.00	1,548.00	305.00	2,233.00	
	JWA	6,937.00	2,238.00	600.00	112.00		JWA	15,350.00	4,602.00	1,421.00	296.00	1,930.00	
	Other Airports ²	2,965,980.00	559,703.00	111,572.00	45,643.00		Other Airports ²	3,244.00	1,047.00	280.00	53.00	445.00	
	Total Regional²	2,960,002.00	558,400.00	110,864.00	45,755.00		Other Airports ²	2,947,548.00	554,910.00	110,200.00	45,328.00	6,487.00	
		2,972,917.00	561,941.00	112,172.00	45,755.00		Total Regional²	2,928,553.00	551,407.00	107,036.00	45,683.00	6,536.00	
		2,966,939.00	560,737.00	111,464.00	45,867.00			2,967,854.00	561,237.00	112,028.00	45,682.00	9,165.00	
		3,141,734.11	649,403.58	125,688.27	52,385.74			2,947,147.00	557,146.00	109,637.00	46,032.00	8,911.00	
TOTAL (pounds/day)	3,147,734.11	649,403.58	125,688.27	52,385.74	10,528.65	TOTAL (pounds/day)	3,140,398.56	647,001.15	125,198.39	52,111.26	10,501.74		
	3,141,734.11	648,199.58	124,980.27	52,497.74	10,543.65		3,119,691.56	642,910.15	122,807.39	52,461.26	10,247.74		
¹	Revised calculation of average trip length. This revision does not impact any of the significance determinations made in connection with the project.						Change from No Project (pounds/day)	(7,335.55)	(2,402.43)	(489.88)	(274.48)	(26.91)	
								22,064.55	(5,289.43)	(2,172.88)	(36.48)	(295.91)	
²	Typographical correction.						Change from No Project (tons/year)	(1,338.74)	(434.44)	(89.40)	(50.09)	(4.91)	
								(4,026.78)	(965.32)	(396.55)	(6.66)	(54.00)	
	Source: CH2M HILL, P&D Consultants, and LSA Associates, Inc. 2001						SCAQMD Threshold for Operation (pounds/day)	550	55	55	150	150	

**Table 8.2-3B
Regionwide Emissions Inventory Phase 4 Proposed Project/No Project (Pounds/Day Unless Noted)**

		No Project (Phase 4)					Proposed Project (Phase 4)						
		CO	NO _x	ROC	SO _x	PM ₁₀	CO	NO _x	ROC	SO _x	PM ₁₀		
Aircraft	El Toro	--	--	--	--	--	Aircraft	El Toro	7,358.95	13,629.82	1,029.16	859.23	130.05
	JWA	7,061.00	3,025.85	402.78	239.64	44.48	JWA	6,014.95	1,800.92	302.24	146.18	29.64	
	Other Airports	76,353.47	83,463.81	11,136.94	6,362.99	908.97	Other Airports	64,573.57	70,877.49	9,423.64	5,400.40	771.29	
	Total Regional	83,414.47	86,489.66	11,539.72	6,602.63	953.45	Total Regional	77,947.47	86,308.23	10,755.04	6,405.81	930.98	
GSE	El Toro	--	--	--	--	--	GSE	El Toro	17,053.53	1,573.31	506.85	75.93	63.69
	JWA	5,610.84	597.89	171.83	14.93	26.54	JWA	4,001.17	481.47	128.31	12.64	21.23	
	Other Airports	106,529.38	10,697.31	3,151.94	692.84	391.71	Other Airports	90,572.75	9,095.58	2,679.98	589.11	333.50	
	Total Regional	112,140.22	11,295.20	3,323.77	707.77	418.28	Total Regional	111,627.45	11,150.36	3,315.14	677.68	418.42	
Energy	El Toro	--	--	--	--	--	Energy	El Toro	108.60	624.60	5.80	64.10	21.40
	JWA	31.60	182.20	1.70	18.70	6.20	JWA	20.30	117.10	1.10	12.00	4.00	
	Others	641.00	3,691.00	34.00	376.70	126.00	Others	544.00	3,132.00	29.00	319.90	107.00	
	Total Regional	672.60	3,873.20	35.70	395.40	132.20	Total Regional	672.90	3,873.70	35.90	396.00	132.40	
Fuel	El Toro	--	--	--	--	--	Fuel	El Toro	--	--	89.31	--	--
	JWA	--	--	9.14	--	--	JWA	--	--	5.87	--	--	
	Other Airports	--	--	558.24	--	--	Other Airports	--	--	474.65	--	--	
	Total Regional	--	--	567.38	--	--	Total Regional	--	--	569.83	--	--	
Airport Roadways	El Toro	--	--	--	--	--	Airport Roadways	El Toro	587.85	119.27	27.04	7.16	9.76
	JWA	117.92	13.70	3.99	0.56	1.17	JWA	75.34	9.02	2.59	0.38	0.76	
	Other Airports	3,673.64	745.48	169.04	44.86	60.95	Other Airports	4,370.07	772.62	185.01	43.44	53.23	
	Total Regional	3,791.56	759.18	173.03	45.42	62.12	Total Regional	5,033.26	900.91	214.64	50.98	63.75	
Airport Parking	El Toro	--	--	--	--	--	Airport Parking	El Toro	367.45	31.64	5.07	9.76	3.85
	JWA	96.38	7.40	9.98	3.05	0.28	JWA	61.04	4.69	6.32	1.93	0.18	
	Other Airports	2,296.37	197.72	31.70	60.99	24.07	Other Airports	1,952.50	168.12	26.95	51.86	20.47	
	Total Regional	2,392.75	205.12	41.68	64.04	24.35	Total Regional	2,380.99	204.45	38.34	63.55	24.50	
Roads	El Toro	--	--	--	--	--	Roads	El Toro ¹	14,631.00	5,781.00	1,193.00	396.00	2,947.00
	JWA	4,569.00	1,848.00	359.00	112.00	946.00	JWA	13,166.00	5,116.00	1,091.00	390.00	2,590.00	
	Other Airports ²	2,772,382.00	495,123.00	71,538.00	48,963.00	8,883.00	Other Airports ²	2,889.00	1,168.00	227.00	71.00	598.00	
		2,764,036.00	493,520.00	70,589.00	49,075.00	8,802.00	Other Airports ²	2,754,719.00	489,484.00	70,413.00	48,535.00	6,269.00	
		2,776,951.00	496,971.00	71,897.00	49,075.00	9,829.00		2,722,511.00	483,968.00	66,692.00	48,996.00	6,445.00	
	Total Regional²	2,768,605.00	495,377.00	70,948.00	49,187.00	9,838.00	Total Regional²	2,772,239.00	496,433.00	71,833.00	48,996.00	9,814.00	
	2,971,016.60	597,999.36	86,629.28	57,002.26	11,428.40		2,728,566.00	490,252.00	68,010.00	49,457.00	9,633.00		
TOTAL (pounds/day)	2,979,362.60	599,593.36	87,578.28	56,890.26	11,419.40	TOTAL (pounds/day)	2,969,901.07	598,870.65	86,761.89	56,590.02	11,384.05		
	2,971,016.60	597,999.36	86,629.28	57,002.26	11,428.40		2,936,228.07	592,689.65	82,938.89	57,051.02	11,203.05		
1 Revised calculation of average trip length. This revision does not impact any of the significance determinations made in connection with the project.							Change from No Project (pounds/day)	(9,461.53)	(722.71)	(816.39)	(300.24)	(35.35)	
2 Typographical correction.							Change from No Project (tons/year)	(34,788.53)	(5,309.71)	(3,600.39)	48.76	(225.35)	
								(1,726.53)	(131.89)	(148.99)	(54.79)	(6.45)	
								(6,348.91)	(969.02)	(673.50)	8.90	(41.13)	
Source: CH2M HILL, P&D Consultants, and LSA Associates, Inc. 2001							SCAQMD Threshold for Operation (pounds/day)	550	55	55	150	150	

**Table 8.2-4
Phase 2 No Project/No Activity Pollutant Concentrations – JWA (Worst Case Operations and Meteorology)**

Receptors	Pollutant Concentrations (ppm)								
	CO (ppm)		NO _x (ppm)		SO ₂ (ppm)			PM ₁₀ (µg/m ³)	
	1-Hour ¹	8-Hour ²	1-Hour ³	AAM ⁴	1-Hour ⁵	24 Hour ⁶	AAM ⁷	24 Hour ⁸	AAM ⁹
1 ¹⁰ - Monte Vista High School	5.0	3.0	0.128	0.01505	0.022	0.007	0.002	84.5 ¹¹	33.8
2 - Newport Beach Golf Course	5.4	3.0	0.148	0.01511	0.023	0.007	0.002	84.6	33.8
3 - Santa Ana Country Club	5.0	3.1	0.128	0.01515	0.023	0.007	0.002	84.7	33.8
4 - Residential Area East of Campus Drive	5.5	3.0	0.190	0.01510	0.024	0.007	0.002	84.7	33.8
5 - Sheraton Newport Beach	5.7	3.1	0.143	0.01537	0.023	0.007	0.002	84.9	33.8
6 - County Superintendent of Schools	5.2	3.1	0.166	0.01554	0.023	0.007	0.002	85.1	33.9
7 - Fire Station	6.3	3.4	0.201	0.01748	0.027	0.008	0.002	85.6	34.1
8 - Executive Park	6.5	3.5	0.229	0.01614	0.024	0.007	0.002	85.1	33.9
9 - Sky Park	5.5	3.1	0.160	0.01530	0.022	0.007	0.002	84.7	33.8
Federal Standard	35 ppm	9.0 ppm	N/A	0.0534 ppm	N/A	0.14 ppm	0.030 ppm	150 µg/m³	50 µg/m³
State Standard	20 ppm	9.0 ppm	0.25 ppm	N/A	0.25 ppm	0.04 ppm	N/A	50 µg/m³	N/A

Source: CH2M Hill and LSA Associates, Inc., 2001.

- NOTE:
- [1] Includes ambient 1-hour CO concentration of 4.6 ppm and 1-hour CO concentration reported by EDMS.
 - [2] Includes ambient 8-hour CO concentration of 2.9 ppm and 8-hour CO concentration reported by EDMS.
 - [3] Includes ambient 1-hour NO₂ concentration of 0.089 ppm and 48.9 percent of the 1-hour NO_x concentration reported by EDMS.
 - [4] Includes ambient AAM NO₂ concentration of 0.0150 ppm and 48.9 percent of the annual NO_x concentration reported by EDMS.
 - [5] Includes ambient 1-hour SO₂ concentration of 0.020 ppm and 1-hour SO_x concentration reported by EDMS.
 - [6] Includes ambient 24-hour SO₂ concentration of 0.006 ppm and 24-hour SO_x concentration reported by EDMS.
 - [7] Includes ambient AAM SO₂ concentrations of 0.002 ppm and AAM SO_x concentration reported by EDMS.
 - [8] Includes ambient 24-hour PM₁₀ concentration of 84.3 µg/m³ and 24-hour PM₁₀ concentration reported by EDMS.
 - [9] Includes ambient AAM PM₁₀ concentration of 33.8 µg/m³ and AAM PM₁₀ concentration reported by EDMS.
 - [10] Receptor number corresponds to Figure 2-12.
 - [11] Numbers in bold represent concentrations that exceed federal or State standards.

**Table 8.2-5
Phase 4 No Project/No Activity Pollutant Concentrations – JWA (Worst Case Operations and Meteorology)**

Receptors	Pollutant Concentrations (ppm)								
	CO (ppm)		NO ₂ (ppm)		SO ₂ (ppm)			PM ₁₀ (µg/m ³)	
	1-Hour ¹	8-Hour ²	1-Hour ³	AAM ⁴	1-Hour ⁵	24 Hour ⁶	AAM ⁷	24 Hour ⁸	AAM ⁹
1 ¹⁰ - Monte Vista High School	5.2	3.0	0.176	0.01559	0.031	0.008	0.002	87.8	31.5
2 – Newport Beach Golf Course	5.9	3.1	0.220	0.01572	0.038	0.008	0.002	88.0	31.5
3 – Santa Ana Country Club	5.4	3.2	0.172	0.01579	0.030	0.008	0.002	88.2	31.5
4 – Residential Area East of Campus Drive	5.9	3.1	0.328¹¹	0.01569	0.049	0.009	0.002	88.1	31.5
5 – Sheraton Newport Beach	6.5	3.2	0.214	0.01620	0.035	0.008	0.003	88.5	31.6
6 - County Superintendent of Schools	5.5	3.2	0.222	0.01649	0.033	0.008	0.003	88.6	31.6
7 - Fire Station	7.7	3.6	0.367	0.02070	0.045	0.010	0.003	89.5	31.9
8 - Executive Park	8.1	4.0	0.410	0.01813	0.048	0.009	0.003	88.9	31.7
9 - Sky Park	6.2	3.3	0.254	0.01615	0.037	0.008	0.003	88.2	31.6
Federal Standard	35 ppm	9.0 ppm	N/A	0.0534 ppm	N/A	0.14 ppm	0.030 ppm	150 µg/m³	50 µg/m³
State Standard	20 ppm	9.0 ppm	0.25 ppm	N/A	0.25 ppm	0.04 ppm	N/A	50 µg/m³	N/A

Source: CH2M Hill and LSA Associates, Inc., 2001.

- NOTE:
- [1] Includes ambient 1-hour CO concentration of 4.6 ppm and 1-hour CO concentration reported by EDMS.
 - [2] Includes ambient 8-hour CO concentration of 2.9 ppm and 8-hour CO concentration reported by EDMS.
 - [3] Includes ambient 1-hour NO₂ concentration of 0.092 ppm and 48.9 percent of the 1-hour NO_x concentration reported by EDMS.
 - [4] Includes ambient AAM NO₂ concentration of 0.0155 ppm and 48.9 percent of the annual NO_x concentration reported by EDMS.
 - [5] Includes ambient 1-hour SO₂ concentration of 0.023 ppm and 1-hour SO_x concentration reported by EDMS.
 - [6] Includes ambient 24-hour SO₂ concentration of 0.007 ppm and 24-hour SO_x concentration reported by EDMS.
 - [7] Includes ambient AAM SO₂ concentrations of 0.002 ppm and AAM SO_x concentration reported by EDMS.
 - [8] Includes ambient 24-hour PM₁₀ concentration of 87.5 µg/m³ and 24-hour PM₁₀ concentration reported by EDMS.
 - [9] Includes ambient AAM PM₁₀ concentration of 35.1 µg/m³ and AAM PM₁₀ concentration reported by EDMS.
 - [10] Receptor number corresponds to Figure 2-12.
 - [11] Numbers in bold represent concentrations that exceed federal or State standards.

**Table 8.2-6
Phase 2 No Project – Predicted One Hour Ambient Carbon Monoxide Concentration for Intersections
with the Highest Volume and Worst Level of Service (LOS)**

INT#	INTERSECTING STREETS	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12
CITY OF ORANGE¹³													
345	Jamboree & Chapman	7.0	7.0	7.1	6.9	6.9	6.7	6.9	7.0	6.6	6.7	6.7	6.8
CITY OF SANTA ANA¹³													
154	MacArthur & Main	7.2	7.2	7.2	7.3	7.1	6.9	6.9	7.2	6.9	7.2	6.8	7.0
152	Main & Sunflower	7.1	7.2	6.8	7.2	6.7	7.0	6.6	6.5	6.7	6.9	7.2	7.0
90	Grand & Edinger	7.1	7.1	7.2	7.2	6.8	7.0	6.8	7.2	6.7	7.0	6.8	7.0
114	Red Hill & Dyer/Barranca	7.0	7.1	7.0	7.2	6.7	6.8	6.6	6.8	6.5	6.9	6.7	6.9
CITY OF TUSTIN¹³													
93	Newport & Edinger	7.3	7.2	6.9	7.1	6.8	7.0	6.6	6.7	6.7	6.8	6.7	7.0
54	Jamboree & El Camino Real	7.1	7.2	7.2	7.0	6.7	7.0	6.6	6.9	6.8	6.7	7.0	7.0
105	Red Hill & Warner	7.0	6.9	7.0	6.9	6.7	6.9	6.6	6.7	6.6	6.9	6.8	6.7
115	Von Karman & Barranca	6.9	6.9	7.0	6.7	6.6	6.6	6.6	6.7	6.5	6.4	6.6	6.6
94	Red Hill & Edinger	6.8	7.0	7.2	6.9	6.8	7.0	6.7	7.0	6.7	6.8	6.8	6.7
CITY OF IRVINE¹⁴													
116	Jamboree & Barranca	5.9	6.0	5.7	5.7	5.4	5.6	5.4	5.5	5.6	5.6	5.5	5.8
156	Jamboree & Main	5.9	5.8	5.7	5.5	5.5	5.7	5.5	5.7	5.4	5.5	5.5	5.8
175	Jamboree & Michelson	5.7	5.6	5.7	5.6	5.2	5.6	5.3	5.3	5.5	5.4	5.5	5.5
134	Jamboree & Alton	5.7	5.6	5.8	5.5	5.3	5.5	5.2	5.2	5.3	5.3	5.3	5.6
151	Red Hill & MacArthur	5.8	5.6	5.5	5.6	5.2	5.4	5.3	5.4	5.5	5.5	5.4	5.5
98	Culver & Irvine Center	5.5	5.5	5.7	5.7	5.2	5.4	5.4	5.6	5.2	5.3	5.4	5.5
155	Von Karman & Main	5.5	5.6	5.6	5.6	5.3	5.5	5.2	5.4	5.1	5.4	5.4	5.3
177	Culver & Michelson	5.4	5.5	5.3	5.2	5.0	5.3	5.1	5.2	5.3	5.2	5.4	5.4
195	MacArthur & Jamboree	5.6	5.5	5.4	5.4	5.1	5.4	5.0	5.2	5.3	5.3	5.3	5.3
CITY OF LAGUNA HILLS¹⁴													
280	El Toro & Avd. Carlota	5.4	5.3	5.4	5.4	5.1	5.2	5.0	5.2	5.2	5.2	5.1	5.3

Note: * - Concentrations are in parts per million (ppm); federal 1 hour CO standard is 35 ppm; State 1 hour CO standard is 20 ppm

- 1 - REC1 SW CORNER
- 2 - REC2 SE CORNER
- 3 - REC3 NE CORNER
- 4 - REC4 NW CORNER
- 5 - REC5 S. DEPARTURE - MID BLOCK
- 6 - REC6 N. APPROACH - MID BLOCK
- 7 - REC7 E. DEPARTURE - MID BLOCK
- 8 - REC8 W. APPROACH - MID BLOCK
- 9 - REC9 N. DEPARTURE - MID BLOCK
- 10 - REC10 S. APPROACH - MID BLOCK
- 11 - REC11 W. DEPARTURE - MID BLOCK
- 12 - REC12 E. APPROACH - MID BLOCK

13 - The ambient one-hour CO concentration, 6.1 ppm, obtained by multiplying a rollback factor to the second highest one-hour CO concentration at the nearest air monitoring station, Central Orange County Air Monitoring Station between the years 1996 to 2000, is added to the calculated one hour levels.

14 - The ambient one-hour CO concentration, 4.6 ppm, obtained by multiplying a rollback factor to the second highest one-hour CO concentration at the nearest air monitoring station, Saddleback Valley Air Monitoring Station between the years 1996 to 2000, is added to the calculated one hour levels.

**Table 8.2-7
Phase 2 No Project – Predicted Eight Hour Ambient Carbon Monoxide Concentration
for Intersections with the Highest Volume and Worst Level of Service (LOS)**

INT#	INTERSECTING STREETS	REC1 ¹	REC2 ²	REC3 ³	REC4 ⁴	REC5 ⁵	REC6 ⁶	REC7 ⁷	REC8 ⁸	REC9 ⁹	REC10 ¹⁰	REC11 ¹¹	REC12 ¹²
CITY OF ORANGE¹³													
345	Jamboree & Chapman	5.2	5.2	5.3	5.2	5.2	5.0	5.2	5.2	5.0	5.0	5.0	5.1
CITY OF SANTA ANA¹³													
154	MacArthur & Main	5.4	5.4	5.4	5.4	5.3	5.2	5.2	5.4	5.2	5.4	5.1	5.2
152	Main & Sunflower	5.3	5.4	5.1	5.4	5.0	5.2	5.0	4.9	5.0	5.2	5.4	5.2
90	Grand & Edinger	5.3	5.3	5.4	5.4	5.1	5.2	5.1	5.4	5.0	5.2	5.1	5.2
114	Red Hill & Dyer/Barranca	5.2	5.3	5.2	5.4	5.0	5.1	5.0	5.1	4.9	5.2	5.0	5.2
CITY OF TUSTIN¹³													
93	Newport & Edinger	5.4	5.4	5.2	5.3	5.1	5.2	5.0	5.0	5.0	5.1	5.0	5.2
54	Jamboree & El Camino Real	5.3	5.4	5.4	5.2	5.0	5.2	5.0	5.2	5.1	5.0	5.2	5.2
105	Red Hill & Warner	5.2	5.2	5.2	5.2	5.0	5.2	5.0	5.0	5.0	5.2	5.1	5.0
115	Von Karman & Barranca	5.2	5.2	5.2	5.0	5.0	5.0	5.0	5.0	4.9	4.8	5.0	5.0
94	Red Hill & Edinger	5.1	5.2	5.4	5.2	5.1	5.2	5.0	5.2	5.0	5.1	5.1	5.0
CITY OF IRVINE¹⁴													
116	Jamboree & Barranca	3.8	3.9	3.7	3.7	3.5	3.6	3.5	3.5	3.6	3.6	3.5	3.7
156	Jamboree & Main	3.8	3.7	3.7	3.5	3.5	3.7	3.5	3.7	3.5	3.5	3.5	3.7
175	Jamboree & Michelson	3.7	3.6	3.7	3.6	3.3	3.6	3.4	3.4	3.5	3.5	3.5	3.5
134	Jamboree & Alton	3.7	3.6	3.7	3.5	3.4	3.5	3.3	3.3	3.4	3.4	3.4	3.6
151	Red Hill & MacArthur	3.7	3.6	3.5	3.6	3.3	3.5	3.4	3.5	3.5	3.5	3.5	3.5
98	Culver & Irvine Center	3.5	3.5	3.7	3.7	3.3	3.5	3.5	3.6	3.3	3.4	3.5	3.5
155	Von Karman & Main	3.5	3.6	3.6	3.6	3.4	3.5	3.3	3.5	3.3	3.5	3.5	3.4
177	Culver & Michelson	3.5	3.5	3.4	3.3	3.2	3.4	3.3	3.3	3.4	3.3	3.5	3.5
195	MacArthur & Jamboree	3.6	3.5	3.5	3.5	3.3	3.5	3.2	3.3	3.4	3.4	3.4	3.4
CITY OF LAGUNA HILLS¹⁴													
280	El Toro & Avd. Carlota	3.5	3.4	3.5	3.5	3.3	3.3	3.2	3.3	3.3	3.3	3.3	3.4

Note: * - Concentrations are in parts per million (ppm); federal and State 8 hour CO standard is 9 ppm

1 - REC1 SW CORNER

2 - REC2 SE CORNER

3 - REC3 NE CORNER

4 - REC4 NW CORNER

5 - REC5 S. DEPARTURE - MID BLOCK

6 - REC6 N. APPROACH - MID BLOCK

7 - REC7 E. DEPARTURE - MID BLOCK

8 - REC8 W. APPROACH - MID BLOCK

9 - REC9 N. DEPARTURE - MID BLOCK

10 - REC10 S. APPROACH - MID BLOCK

11 - REC11 W. DEPARTURE - MID BLOCK

12 - REC12 E. APPROACH - MID BLOCK

13 - The ambient eight-hour CO concentration, 4.6 ppm, obtained by multiplying a rollback factor to the second highest eight-hour concentration at the nearest air monitoring station, Central Orange County Air Monitoring Station between the years of 1996 to 2000, is added to the product of the calculated one-hour levels multiplied by a persistent factor of 0.7.

14 - The ambient eight-hour CO concentration, 2.9 ppm, obtained by multiplying a rollback factor to the second highest eight-hour concentration at the nearest air monitoring station, Saddleback Valley Air Monitoring Station between the years of 1996 to 2000, is added to the product of the calculated one-hour levels multiplied by a persistent factor of 0.7.

Toxic Air Contaminants

Under this alternative, no runway improvements at JWA would be necessary and there would be no aviation reuse of MCAS El Toro. In addition, no nonaviation uses are planned. Therefore, toxic air contaminant impacts would likely be less than under the Proposed Project.

8.2.4.6 Topography

The No Project/No Activity Alternative would not involve construction at the MCAS El Toro site and, therefore, would not result in impacts related to topography. Therefore, this alternative would avoid topographic impacts of the Proposed Project at the El Toro site. However, since the project impacts are insignificant, no significant impacts would be avoided.

Under the No Project/No Activity Alternative, no changes would be made to existing operations at JWA. Therefore, no changes to existing topographic conditions at JWA would occur. This is also the case under the Proposed Project.

8.2.4.7 Soils, Geology and Seismicity

The No Project/No Activity Alternative would not involve construction or development at MCAS El Toro, and would therefore not result in impacts related to soils or geologic features. Since MCAS El Toro would be closed and remain vacant and unoccupied under this scenario, it would not expose residents, employees or visitors to potential seismic effects.

Under the No Project/No Activity Alternative, no changes would be made to existing operations at JWA. Therefore, no changes to existing conditions regarding soils, geologic features or seismicity would occur at JWA.

This alternative would avoid impacts of the Proposed Project at the El Toro site. However, since the project impacts are insignificant, no significant impacts would be avoided.

8.2.4.8 Hydrology and Water Quality

Under the No Project/No Activity Alternative, existing on-base flooding would continue, and necessary improvements would not be made. In addition, improvements such as Marshburn Channel would not be made and regional flood control plans would not be implemented. In contrast, under the Proposed Project, improvements to the existing storm drain system at MCAS El Toro will be made resulting in beneficial impacts.

No groundwater will be pumped from the MCAS El Toro site under this alternative so there will be no impacts to local groundwater levels or basin storage under this alternative.

Groundwater quality impacts under this alternative will be similar to those discussed for the Proposed Project.

With respect to water quality, under the No Project/No Activity Alternative, sedimentation impacts due to erosion at the MCAS El Toro site would be significant. In comparison, under the Proposed Project, improvements to the drainage system will reduce water quality impacts to a level below significant.

Under this alternative, JWA will require no new construction. Therefore, this alternative will not result in impacts related to hydrology and water quality.

In summary, this alternative would result in worse impacts than the project, and would not avoid or lessen project impacts.

8.2.4.9 Biological Resources

Under the No Project/No Activity Alternative, the MCAS El Toro site would remain vacant and undeveloped, which would not result in direct adverse impacts to biological resources. There would be no improvements to channels or streambeds, and they would be retained at the MCAS El Toro site. However, agricultural activities would cease, and foraging would not occur. Depending upon the amount of time that this alternative continued, some areas may become more naturalized, and some wildlife may increase in numbers as a result. There would be no aircraft flyovers in the federal Habitat Reserve as part of this alternative. Under the Proposed Project, however, a Wildlife Habitat Area will be created. Consequently, no beneficial impacts associated with the creation of coastal sage scrub on the eastern portions of the MCAS El Toro site will result under the No Project/No Activity Alternative. This alternative would not result in any project impacts at the El Toro site, but since the project would have no significant impacts, this alternative would not avoid any identified significant impacts. This alternative would preclude implementation of the Wildlife Habitat Area; therefore, this alternative would have a significant adverse regional wildlife impact.

Under the No Project/No Activity Alternative for JWA, there would be no adverse biological resource impacts at JWA or in Upper Newport Bay, since there is no physical improvements and no substantial change in aircraft operations. The current indirect impacts on biological resources in Upper Newport Bay result from existing commercial operations at JWA. These impacts include noise, motion, and startle effects from direct aircraft flyovers. These impacts would continue under the No Project/No Activity Alternative. This alternative would not avoid or lessen these impacts compared to the project.

8.2.4.10 Public Services and Utilities

Under the No Project/No Activity Alternative, the MCAS El Toro site would remain vacant and undeveloped, which would require no utilities. However, a large-scale, vacant site with standing buildings, such as the El Toro site, would require some form of police security, and a plan to utilize nearby fire stations for fire and emergency medical services. However, the site would generate no revenues to offset costs requiring a subsidy from federal and/or local agencies. The lack of police and fire services under the No Project/No Activity Alternative results in significant adverse impacts. In addition, the proposed OCFA station on Irvine Boulevard that is part of the Proposed Project would not be developed, and OCFA would be required to obtain another site for relocation of the Spectrum/Lake Forest temporary OCFA station. In addition, the candidate OCFA station site in Planning Area 4 would not be developed, and OCFA would be required to obtain another site to serve the Irvine area west of the El Toro site. This alternative would preclude all the public facilities proposed in the ASMP, which would be a significant adverse impact to State, County, and special district operators.

JWA would remain status quo operations, and therefore, no change to the existing public service and utilities conditions would occur.

With respect to utilities, as described in Section 4.10 (Public Services and Utilities), the Proposed Project is not anticipated to result in significant adverse impacts related to utilities. Therefore, the No Project/No Activity Alternative would not avoid a significant impact. Utilities demand at JWA under the No Project/No Activity Alternative would be similar to existing demand and could be served without significant adverse impacts after mitigation, similar to the Proposed Project.

In summary, this alternative would not avoid impacts, but would lessen impacts compared to the project. However, this alternative would generate new, significant, adverse impacts by precluding all the public facilities included in the ASMP.

8.2.4.11 Natural Resources and Energy

As noted in Section 4.11 (Natural Resources and Energy), the Proposed Project would not result in significant adverse impacts to natural resources and energy, with the exception of impacts to consumption of jet fuel in the region (when compared to existing conditions) and to agricultural resources at MCAS El Toro, which could not be mitigated to below a level of significance. This alternative anticipates no activity at the El Toro site, so all agricultural operations would cease. However, the Prime Agricultural Soils would not be lost to development. There are no natural or agricultural resources at JWA.

Under this alternative, energy consumption associated with construction activities at El Toro would be eliminated, and this component of the alternative's energy consumption would be less than that of the Proposed Project. From a regional standpoint, however, this alternative

would not meet the forecasted increase in air service demand, a substantial portion of which would have been met by the Proposed Project. Under this circumstance, it would be necessary for the shortfall in air service demand to be met at other regional airports which, in turn, would entail energy (jet fuel) consumption on a par with that of the Proposed Project. As noted in Section 4.11, if for any reason the regional demand for air passenger and cargo service was not fully met, the Proposed Project would have a greater impact on consumption of jet fuels than the No Project/No Activity Alternative. In addition, providing air services equivalent to those of the Proposed Project at other regional airports also could increase overall highway travel-related fuel consumption, as air travelers drive to other, more distant airports within the ASA. Consequently, the long-term regional energy consumption implications of this alternative will be equivalent to, and possibly greater than, those of the Proposed Project, so long as regional air passenger and air cargo demand is met elsewhere.

In summary, this alternative would avoid the loss of Prime Agricultural Soils and lessen impacts on energy resources compared to the Proposed Project.

8.2.4.12 Aesthetics, Light and Glare

The No Project/No Activity Alternative would eliminate all activities and potential revenue for maintenance activities and lead to decay and vandalism. This would result in a significant adverse impact on aesthetics. No new or additional light or glare impacts would occur at either the El Toro site or the JWA site. Although this alternative would decrease the level of light and intensity of glare at El Toro, this was not identified as a potentially significant impact under the Proposed Project.

In summary, this alternative would have significant adverse aesthetic impacts not identified under the Proposed Project.

8.2.4.13 Cultural Resources

With the No Project/No Activity Alternative, no future uses would be developed on the former Marine base site. Any cultural resources on the site would not be disturbed under the No Project/No Activity Alternative. The Proposed Project would also have no significant impacts on cultural resources; therefore, this alternative would not avoid project impacts.

The No Project/No Activity Alternative anticipates status quo operations at JWA. As such, there would be no additional or new impacts on cultural resources in the JWA area. Similarly, the Proposed Project would not impact cultural resources in the JWA area.

8.2.4.14 Recreation

Assuming no future development of the MCAS El Toro site under the No Project/No Activity Alternative, there would not be any physical impacts to area recreational facilities (trails and parks). However, under the No Project/No Activity Alternative, the recreational

facilities proposed as part of the project at the El Toro site would not be provided. The demand for these recreational uses in South County would be increased. This alternative would not avoid impacts, but would significantly reduce recreational facilities, which would be a significant adverse impact of this alternative.

At JWA, status quo operations would continue under this alternative, and no additional impacts or changes to existing impacts on use of recreational facilities in the area would occur.

8.2.4.15 Public Health and Safety

Aviation Safety

Under the No Project/No Activity Alternative, the potential air carrier and air cargo accident risks at JWA would increase over the Proposed Project by approximately 40.9% to reflect the number of increasing aviation activity at JWA and the potential accident risks for general aviation at JWA would slightly increase by 2.1% correspondingly. Since there would be no aviation activity at OCX, there would be no aviation risks. Compared to the Proposed Project, this alternative would avoid impacts at the El Toro site, but would increase impacts at JWA.

This alternative would avoid the health risks of aviation toxic air contaminants at the El Toro site, but increase them at JWA compared to the project.

8.2.4.16 Hazardous Materials and Hazardous Wastes

Under the No Project/No Activity Alternative, no new construction would occur at the MCAS El Toro site and JWA would continue to operate at 8.4 MAP. Remedial investigations and response actions would continue at all IRP sites at El Toro, consistent with the current program requirements of industrial cleanup standards. This is also the case under the Proposed Project.

Under the No Project/No Activity Alternative, no new hazardous materials would be used or stored and no new hazardous waste would be generated from the El Toro site. Hazardous waste handling practices would remain unchanged at JWA. Likewise, there would be no impacts associated with the new use of hazardous materials or new generation of hazardous waste materials at the El Toro site under the Proposed Project.

In comparison to the Proposed Project, over the long term, existing structures with Asbestos-Containing Building Materials (ACBMs) and lead-based paint would no longer be maintained under the No Project/No Activity Alternative. Structures containing asbestos and lead paint would deteriorate over the long term, a condition which could represent a human health hazard. This would be a significant adverse impact associated with this alternative.

This alternative would avoid new hazardous materials impacts, but would result in worse asbestos and lead paint hazards compared to the project.

8.2.4.17 Socioeconomics

This alternative would result in a reduction of 24,300 jobs compared to the Proposed Project. Under this alternative, an estimated 5,200 jobs would be generated at JWA, a net increase of 3,100 jobs over existing 1998 conditions at JWA. However, this would be a significant reduction from the project case.

As with the Proposed Project, economic activity at JWA under the No Project/No Activity Alternative, as well as expenditures by visitors arriving by air through JWA, would stimulate additional off-site job growth. However, the total number of on-site and off-site jobs stimulated by the airport system would be significantly lower under the No Project/No Activity Alternative than under the Proposed Project.

Given the fewer number of jobs generated under this alternative, at 5,200 jobs versus 29,500 jobs under the Proposed Project, the magnitude of impacts related to induced growth or concentration of population and employment in the area, and increasing demand for housing, including low and moderate income housing, beneficial socioeconomic impacts would be significantly lower under the No Project/No Activity Alternative than under the Proposed Project.

In summary, this alternative would not avoid or lessen adverse impacts compared to the Proposed Project. This would be true under all development scenarios.

8.2.4.18 Economic Implications

To provide a point of comparison regarding the potential unrealized economic benefits to Orange County associated with the No Project/No Activity Alternative, the level of economic benefits generated under this scenario was also estimated.

Without the development of commercial aviation facilities at MCAS El Toro, the Orange County air service deficiencies are projected to increase significantly by 2020, even if JWA were to expand to its maximum passenger capability. In 2020, the air passenger capacity deficiency at Orange County airports would range from 9.2 to 14.8 million origin and destination passengers (excluding connecting passengers) depending on the extent to which JWA could be expanded. The 2020 air cargo deficiency would be approximately 2.0 million tons without development of OCX.

The potential economic implications associated with the No Project/No Activity Alternative are twofold. First, passengers served in the year 2020 in Orange County would be reduced from 34.2 MAP to 8.4 MAP, leading to substantial reductions in the output, income, and

employment associated with the direct (provision of service) activity. Second, while the air passengers and cargo projected to use OCX and JWA under the Proposed Project could be accommodated at other airports in the region, there would be some reduction in the level of visitor expenditures in Orange County from these air passengers, as well as a potential loss of economic competitiveness for the County.

Direct (provision of service) benefits to Orange County's economy generated by the No Project/No Activity Alternative in 2020 are projected to amount to \$1.3 billion in output; \$496 million in personal income; and 13,600 jobs. In terms of potential unrealized direct economic benefits, in 2020 the No Project/No Activity Alternative generates \$2.9 billion *less* in total output, \$1.2 billion *less* in personal income, and 32,000 *fewer* jobs than the airport related direct (provision of service) benefits associated with the Proposed Project.

Indirect benefits under the No Project/No Activity Alternative would be generated by use of aviation services provided at JWA. These use of service benefits include expenditures by visitors arriving on commercial and general aviation flights at JWA, aircrew layovers from commercial flights using JWA, and revenue to local travel agencies from Orange County residents booking flights from JWA. The total economic benefits (including indirect and induced activity) generated by use of service provided at JWA in 2020 under the No Project/No Activity Alternative amounts to 34,100 jobs, \$784 million in personal income, and \$1.9 billion in output.

The total economic benefits (including indirect and induced activity) generated by both provision and use of service provided at JWA in 2020 under the No Project/No Activity Alternative amounts to 47,700 jobs, \$1.3 million in personal income, and \$3.2 billion in output. In 2020 the No Project/No Activity Alternative generates \$6.5 billion *less* in total output, \$2.7 billion *less* in personal income, and 98,000 *fewer* jobs than the benefits associated with the Proposed Project.

However, these differences overstate the level of potential unrealized indirect (use of service) economic benefits associated with the No Project/No Activity Alternative. It is anticipated that air passengers projected to use OCX and JWA under the Proposed Project could be accommodated at other airports in the region under the No Project/No Activity Alternative. Thus, the visitors to Orange County expected to use OCX and JWA under the Proposed Project will still spend time and money in Orange County under the No Project/No Activity Alternative.

As regional ground access travel times increase, which regional transportation planning agencies expect will occur, reaching Orange County from airports outside of the County will become less convenient and more time-consuming. Because visitors (both business and pleasure) to the region arriving by air desire convenient, fast transportation between their origin and destination, this will place leisure and business destinations in Orange County at a competitive disadvantage in the region, potentially leading to reductions in the amount of time spent (and associated expenditures) in Orange County under the No Project/No Activity Alternative.

There is no reliable method to quantify this reduction in visitor expenditures caused by less convenient access to the County by air passengers. However, the magnitude of the impact could be significant, and would result in economic benefits generated by visitors to Orange County arriving by air that are less than the level estimated under the Proposed Project.

8.2.4.19 Risk of Upset

Implementation of the No Project/No Activity Alternative will not result in significant adverse impacts to public health and safety related to risk of upset conditions. This alternative would avoid impacts compared to the Proposed Project. However, since the Proposed Project impacts are insignificant after mitigation, no significant impacts would be avoided by this alternative.

8.2.5 Conclusions

The No Project/No Activity Alternative would:

- (i) Not meet any of the general project objectives, and would not meet the aviation objectives relating to passenger and cargo demand, service opportunities, industry competition, economic growth, business activities, existing land use restrictions, or General Plan implementation;
- (ii) Not avoid impacts on land uses, General Plan consistency, and regional air quality emissions;
- (iii) Result in new or additional significant adverse impacts to regional VMT, regional air quality emissions, hydrology, public services, aesthetics, recreation, aviation safety at JWA, asbestos and lead paint hazards, and economics; and
- (iv) Avoid or lessen impacts on topography; soils, geology, and seismicity; aviation noise at the El Toro site, including sleep disturbances and recreation uses; construction related air quality impacts; toxic air contaminants at El Toro; local air quality impacts at OCX due to aircraft operations; utilities; Prime Agricultural Soils; energy resources; aviation safety at El Toro; new hazardous materials and wastes; and risk of upset. However, the Proposed Project would have no significant impact after mitigation in these categories except for sleep disturbance, jet fuel consumption, local air quality, construction related air quality, toxic air contaminants, and agricultural resources.

In summary, the No Project/No Activity Alternative would avoid unmitigatable project impacts on agricultural resources, local air quality impacts at OCX, toxic air contaminants near the El Toro site, and noise impacts on sleep disturbance and recreation uses. However, this alternative would increase significant aviation noise and air quality impacts at regional airports, including toxic air contaminants and sleep disturbance due to increased service

levels at other regional airports. This alternative would result in new or additional impacts in several categories, including significant increases in regional VMT and regional air quality emissions as a result of the failure to meet the locally generated demand in Orange County. Specifically, under the No Project/No Activity Alternative, there will be greater average highway trip lengths and, therefore, increased VMT by air passengers and shippers. In addition, accommodating Orange County demand at other airports in the region would increase average delay time at those airports resulting in increased aircraft and GSE emissions.

8.3 ETRPA NONAVIATION PLAN ALTERNATIVE

This section presents the potential impacts of the ETRPA Nonaviation Plan Alternative as measured against the existing setting, as well as a comparison of the alternative's impacts to those of the Proposed Project at build out. In those instances in which the comparison of the alternative to the Proposed Project is materially affected by the phasing of the project, i.e., in those instances in which the impacts of the Proposed Project during the phasing years are materially different from those impacts at year 2020, a comparison of the alternative's impacts to those of the Proposed Project for the applicable phasing year is also provided.

8.3.1 Aviation Uses

No aviation reuse activities are proposed for MCAS El Toro under the ETRPA Nonaviation Plan Alternative.

8.3.2 Nonaviation Revenue Support Uses

The El Toro Reuse Planning Authority (ETRPA), composed of the cities of Irvine, Lake Forest, Dana Point, Laguna Beach, Laguna Hills, Laguna Niguel, and Mission Viejo, prepared a nonaviation plan (Millennium Plan, April 1998) for the El Toro site. In October of 1997, the Board of Supervisors directed that, if ETRPA timely delivered to the County a nonaviation development proposal for El Toro in form and detail adequate for analysis in the Master Development Plan EIR, the proposal would be analyzed as an alternative in the EIR. The Board also directed that environmental comparison to the Proposed Project in the EIR be provided on all environmental categories where the nonaviation alternative would result in significantly different impacts than the Proposed Project. At a minimum, the alternative will be analyzed for noise, air quality, and traffic impacts.

EIR No. 563 included analysis of a nonaviation development plan for the El Toro site (Alternative C), which was analyzed at a level of detail equal to the aviation alternatives (Alternatives A and B). The EIR No. 563 nonaviation alternative included a land use mix similar in key areas to the ETRPA Nonaviation Alternative. While there are differences in the individual land uses and land use locations, the overall objective of both alternatives is similar; that is, to establish a nonaviation planned community with a mix of residential, employment, institutional, and open space/recreation uses, including a major visitor serving commercial use component. In its certification of Final EIR No. 563, the LRA determined that the nonaviation alternative would not meet the objectives of the project and would have certain impacts greater than the CRP.

Since the nonaviation alternative was rejected during certification of Final EIR No. 563, the nonaviation plan is not required to be carried forward for analysis in Draft EIR No. 573. However, the LRA directed that the nonaviation alternative will be analyzed in case an aviation plan is determined to be infeasible at a future date.

The land uses assumed on the former MCAS El Toro site under this alternative are organized around four districts, three of which would be developed with mixes of various land uses and are referred to as an Arts and Culture district, an Education, Research and Technology (ERT) district, and a Sports and Entertainment district. The fourth district is designated as an undeveloped Habitat Reserve district, which would not generate an appreciable amount of vehicle traffic. Each of the three developed districts contains a mixed-use village as its core activity center. The mixed-use villages are envisioned as intensive activity areas composed of both residential and nonresidential uses that establish the theme for each district. Figure 8-1 depicts the ETRPA Nonaviation Plan Alternative.

Under this alternative and as in the No Project/No Activity Alternative, JWA is assumed to continue providing general aviation and short and medium-haul domestic air passenger services at a service level of 8.4 MAP (an average of 23.0 thousand passengers per day), all of which are non-connecting passengers. JWA is also assumed to continue to annually handle approximately 6.4 thousand tons of domestic belly cargo and 13.6 thousand tons of air express cargo.

8.3.3 Phasing: Build Out Over 20 Years

Development and build out of this alternative is proposed to occur over a 20-year period, in four 5-year phases. However, the feasibility of this absorption rate for the proposed uses is questionable. Phase One development would encompass a 1,826-acre area north and south of Irvine Boulevard at the western boundary of MCAS El Toro nearest the Eastern Transportation Corridor. Uses designated for the Phase One area include industrial, high-technology, and commercial uses, as well as a small portion of the ERT Village. Other Phase One uses include a sports stadium, auto center, office and industrial uses, and a 995-acre habitat area.

Phase Two includes an Arts and Culture Village, park space (Central Park), and a resort hotel/conference center with related golf course. This phase also includes development of residential areas related to the Village and areas adjacent to the Village.

Phase Three includes ERT uses in the southwest corner of MCAS El Toro and Entertainment/Mixed-Use areas. Phase Three developments also include an Outdoor Sports Complex and single-family residential development north of Irvine Boulevard.

Phase Four development includes additional residential areas near Central Park and south of Trabuco Drive. Also included are residential areas adjacent to the existing golf course and research and development areas. Phase Four also plans for the final development of Central Park.

8.3.4 Attainment of Project Objectives

This alternative would meet the general project objectives of development and surrounding land use compatibility. The ETRPA Nonaviation Plan Alternative would not meet the general project objectives of economic opportunities, timely implementation, and special planning of the aviation related objectives, with the exception of preserving general aviation opportunities (but not the objective of enhancing these opportunities).

8.3.5 Environmental Impacts of the ETRPA Nonaviation Plan Alternative

8.3.5.1 Land Use

Under the ETRPA Nonaviation Alternative, the MCAS El Toro site is proposed to be developed with a variety of nonaviation uses including parks and open space, residential areas, employment uses, and an arena/stadium. As with the Proposed Project, the proposed perimeter land uses along the northeast and southeast portions of the site are primarily open space such as golf, habitat, and park areas. These uses are similar in intensity or less intense than the existing and General Plan approved uses off-site. The northwest portion of the MCAS El Toro site under this alternative would be developed with business, technology, education research and development and village uses. Villages include a range of residential densities, retail, office, and hotel uses. These uses are consistent with the employment uses provided for in the Orange County General Plan in the adjacent areas. The ETRPA Nonaviation Alternative perimeter uses for the southwest portion of the site, abutting the business park uses in the City of Irvine, include business park, transportation center (adjacent to the Irvine Transportation Center), entertainment uses, and a stadium near the confluence of I-5 and I-405. These proposed uses are compatible with the existing business park/light industry in this area. There are no significant land use conflicts associated with the proposed land uses of the ETRPA Nonaviation Alternative.

This alternative does not include any agricultural uses, therefore there is no impact of agriculture on more urbanized development. The loss of agricultural acreage is addressed in Section 8.12.4.11, Natural Resources and Energy. Concerns that an airport would attract undesirable land uses such as sexually oriented businesses is not an issue since there is no airport use proposed in the ETRPA Nonaviation Alternative.

The ETRPA Nonaviation Alternative does not address any changes to JWA, therefore, the impacts are the same as the No Project/No Activity Alternative E. There are no significant land use impacts at JWA associated with the ETRPA Nonaviation Alternative.

In summary, the impacts of this alternative related to land use are generally less than or comparable to the impacts under the Proposed Project.

8.3.5.2 General Plan Consistency

The ETRPA Nonaviation Alternative would require several General Plan amendments. This alternative is not consistent with the current Public Facilities and Open Space designations of the Orange County General Plan, and would require an amendment to the Land Use Element. An amendment to the Noise Element of the County General Plan and the AELUP would be needed to eliminate aviation noise contours relating to the MCAS El Toro site. The ETRPA Nonaviation Alternative is not consistent with the City of Irvine General Plan. The ETRPA Nonaviation Alternative would require amendments to the same elements as the Proposed Project with the exception of the Safety Element of the Orange County General Plan and, therefore, would result in comparable impacts to General Plan consistency as the Proposed Project.

8.3.5.3 Transportation and Circulation

The transportation and circulation impacts with full build out of the ETRPA Nonaviation Plan Alternative were analyzed for two scenarios. The first scenario analyzed the effects of the alternative on the existing roadway system without any mitigating improvements and without the impacts of committed growth and development, for the purpose of determining the significance of this alternative's impacts. In order to identify specific project related roadway improvements required with full build out of the ETRPA Nonaviation Plan Alternative, the second scenario analyzed the effects of the alternative based on existing roadway conditions plus committed improvements and foreseeable development as represented by OCP-96 development growth for 2020. Traffic generation characteristics of JWA and the former MCAS El Toro site under this alternative were determined according to two components: 1) the ETRPA Nonaviation Plan Alternative land uses at the former MCAS El Toro site, and 2) aviation uses at JWA.

The AM and PM peak hour and ADT trips generated by the nonaviation land uses at the former MCAS El Toro site and by the aviation operations at JWA with build out of this alternative are summarized in Table 8.3-1. Refer to Section 13.0 in the 1999 Traffic Analysis Technical Report for detailed information on the methodology applied to produce trip generation estimates for the ETRPA Nonaviation Plan Alternative.

**Table 8.3-1
Trip Generation Summary - ETRPA Nonaviation Plan Alternative**

Project Component	AM Peak Hour			PM Peak Hour			Average Daily Traffic
	In	Out	Total	In	Out	Total	
Former MCAS El Toro Site							
ETRPA Nonaviation Plan Alternative Land Uses	23,778	7,421	31,199	11,756	25,155	36,911	339,616
JWA	1,552	1,037	2,589	2,047	2,050	4,097	51,706
TOTAL	25,330	8,458	33,788	13,803	27,205	41,008	391,322

The circulation plan that is proposed to provide access to the former MCAS El Toro site as well as to facilitate the project's on-site circulation needs under this alternative is described in detail in Section 13.0 of the 1999 Traffic Analysis Technical Report. The plan is comprised of a number of arterial roads proposed to be constructed both on- and off-site, and an ETC East Leg access system that provides full access at Trabuco Road and improved access at Irvine Boulevard. No changes to the connections which currently provide access between JWA and the surrounding circulation system are envisioned with development of this alternative.

Existing Conditions Plus Alternative Build Out Impact Analysis

The impacts of the ETRPA Nonaviation Plan Alternative on existing conditions were identified by superimposing full build out of the project onto the existing circulation setting. This scenario analyzes the impacts of the project without any mitigating improvements and without the impacts of committed growth and development, and is intended to identify the uniquely applicable potential significant effects of the alternative for the purpose of determining the significance of the alternative's impacts.

The on-site and site access plans for this alternative were applied in the existing plus project analysis with the exception of the ETC access system improvements (since the ETC had not yet been constructed under 1997 conditions) and road extensions associated with the El Toro circulation plan which assume unplanned off-site alignments. The resulting existing plus project peak hour LOS were compared with corresponding results for existing conditions (refer to Section 13.0 in the 1999 Traffic Analysis Technical Report for detailed summaries of the existing plus project traffic volumes and LOS as well as comparisons between existing and existing plus project conditions for intersections and arterial roadways within the traffic analysis study area, and refer to Section 13.0 in the 2001 Traffic Analysis Technical Report Addendum for comparable information for freeway/tollway mainline segments and freeway/tollway ramps within the traffic analysis study area). Table 8.3-2 summarizes the intersection locations, arterial roads, freeway ramps, and freeway mainline segments that are significantly impacted under existing plus ETRPA Nonaviation Plan Alternative conditions.

This scenario (i.e., build out of the 20 year project without the consideration of committed improvements to the roadway network or the impacts of other growth and development) will never actually occur and is analyzed to determine the significance of this alternative's potential traffic impacts. Potential impacts identified in the existing plus ETRPA Nonaviation Plan Alternative analysis would be mitigated through the implementation by others of committed (non-project related) roadway improvements during the actual phased development of this alternative and through the implementation of specific project mitigation measures identified based on the existing plus committed impact analysis that is summarized below for this alternative.

**Table 8.3-2
Existing Plus ETRPA Nonaviation Plan Alternative Impact Summary**

Location	Jurisdiction	Location	Jurisdiction
IMPACTED INTERSECTIONS			
Bake & Portola	County	Jeffrey & I-405 SB Ramps	Irvine
E. Central Park & Irvine	County	Jeffrey & Walnut/I-5 SB	Irvine
Millennium & Barranca	County	Sand Canyon & I-5 NB Ramps	Irvine
Millennium & Central Park	County	Sand Canyon & I-5 SB Ramps	Irvine
Millennium & Irvine	County	Technology & Barranca	Irvine
Millennium & Jeronimo	County	Irvine Center & Lake Forest	Irvine/ Laguna Hills
Millennium & Marine	County	Bake & Irvine/Trabuco	Irvine/ Lake Forest
Millennium & Rockfield	County	Bake & Jeronimo	Irvine/ Lake Forest
Research & Irvine	County	Bake & Toledo	Irvine/ Lake Forest
Sand Canyon & Trabuco	County	Jamboree & Irvine	Irvine/Tustin
Trabuco & Irvine	County	La Paz & Cabot/I-5 SB	Laguna Hills
W. Central Park & Irvine	County	Bake & Commercentre	Lake Forest
W. Central Park & Portola	County	El Toro & Rockfield	Lake Forest
Alton & Irvine	County/Irvine	Lake Forest & Jeronimo	Lake Forest
Alton & Toledo	Irvine	Lake Forest & Rockfield	Lake Forest
Bake & I-5/I-405 NB Ramps	Irvine	Lake Forest & Trabuco	Lake Forest
Bake & I-5/I-405 SB Ramps	Irvine	Los Alisos & Muirlands	Lake Forest/ Mission Viejo
Bake & Rockfield	Irvine	Alicia & Jeronimo	Mission Viejo
I-5 HOV Ramps & Barranca	Irvine	Alicia & Muirlands	Mission Viejo
I-5 NB Ramps & Alton	Irvine	La Paz & Muirlands/I-5 NB	Mission Viejo
Jeffrey & Alton	Irvine	Newport & Old Irvine	Tustin
Jeffrey & I-405 NB Ramps	Irvine		
IMPACTED ARTERIAL ROADS			
Irvine (Jeffrey to Research)	County	Laguna Canyon (south of El Toro)	County/ Laguna Beach
Irvine (Millennium to Trabuco)	County	Irvine (Alton to Bake)	Irvine
Portola (W. Central Park to FTC)	County	Sand Canyon (Trabuco to I-5)	Irvine
Laguna Canyon (I-405 to SR-73)	County/Irvine	Bake (north of Irvine/Trabuco)	Irvine/ Lake Forest
IMPACTED FREEWAY SEGMENTS			
I-5 (Sand Canyon to north of I-5)	Caltrans	SR-55 (I-5 to MacArthur)	Caltrans
I-405 (MacArthur to north of SR-55)	Caltrans	SR-55 (I-405 to SR-73)	Caltrans
IMPACTED FREEWAY RAMPS			
I-5 at Bake (SB Loop On-Ramp)	Caltrans/Irvine	I-5 at Sand Canyon (SB Off-Ramp)	Caltrans/ Irvine
I-5 at Bake (NB Direct On-Ramp)	Caltrans/Irvine	I-405 at Sand Canyon (NB Direct On-Ramp)	Caltrans/ Irvine
I-5 at Jeffrey (SB Off-Ramp)	Caltrans/Irvine	SR-133 at Barranca (SB On-Ramp)	Caltrans/Irvine
I-5 at Sand Canyon (NB On-Ramp)	Caltrans/Irvine	I-5 at La Paz (SB Off-Ramp)	Caltrans/ Laguna Hills

Alternative Build Out Impact Analysis

In order to identify project impacts that require specific project related roadway improvements, traffic conditions were analyzed based on build out of the ETRPA Nonaviation Plan Alternative. The traffic forecasts were prepared based on the circulation system that is committed to be in place within the study area by 2020 and OCP-96 development growth for 2020. Peak hour levels of service with and without the ETRPA Nonaviation Plan Alternative were compared in order to identify the locations on the existing plus committed circulation system that require specific project related improvements to address the traffic impacts of the ETRPA Nonaviation Plan Alternative.

Table 8.3-3 summarizes the intersection locations, arterial road and freeway/tollway ramps which are significantly impacted by this alternative at build out (refer to Section 13.0 in the 1999 Traffic Analysis Technical Report for detailed summaries of the traffic volumes and LOS as well as comparisons between existing plus committed conditions with and without this alternative for intersections and arterial roadways within the traffic analysis study area, and refer to Section 13.0 in the 2001 Traffic Analysis Technical Report Addendum for comparable information for freeway/tollway mainline segments and freeway/tollway ramps within the traffic analysis study area). The summary table also identifies circulation improvements which serve as mitigation measures for this alternative's impacts as well as the project's obligation (full share or fair share) to implement the proposed mitigation improvements.

Implementation of the circulation improvements identified in Table 8.3-3 would effectively mitigate to a level of insignificance all of the project impacts identified with project conditions with the exception of the intersection of Bake Parkway and the I-5/I-405 northbound ramps. As noted in the summary table, no feasible improvements that would address the impacts of this alternative were able to be identified at this location.

**Table 8.3-3
ETRPA Nonaviation Plan Alternative Mitigation Improvements**

Location	Jurisdiction	Improvement	Funding Obligation	Project Share
IMPACTED INTERSECTIONS				
ETC East Leg NB & Irvine	County	Convert second EB free right-turn lane to third through lane and convert NB left-turn lane to shared left-turn/second right-turn lane	Fully fund	100%
ETC NB Off & Santiago Canyon	County	Convert NB shared second left-turn lane/right-turn lane to right-turn lane and add a NB shared second left-turn lane/second right-turn lane	Fully fund	100%
Lake Forest & Portola	County	Add NB right-turn lane and convert second NB through lane to shared second through/second right-turn lane	Fully fund	100%
Millennium & Alton	County	Add fourth SB through lane	Fully fund	100%
Millennium & Irvine	County	Add third EB and WB through lanes	Fully fund	100%
Moulton & Laguna Hills	County	Convert SB right-turn lane to free right-turn lane	Fully fund	100%
Research & Irvine	County	Add third and fourth WB through lanes, third EB through lane, second NB and EB left-turn lanes and dual SB right-turn lanes	Fully fund	100%
Sand Canyon & Trabuco	County	Add third NB and SB through lanes, second EB through lane and second WB left-turn lane	Fully fund	100%
Trabuco & Irvine	County	Add third EB and WB through lanes and second NB right-turn lane	Fully fund	100%
W. Central Park & Irvine	County	Add third EB and WB through lanes	Fully fund	100%
Jeffrey & Irvine	County/Irvine	Add third EB and WB through lanes	Fair share	22%
Alton & Jeronimo	Irvine	Add second EB and WB through lanes	Fully fund	100%
Bake & I-5/I-405 NB Ramps	Irvine	No feasible improvements could be identified	Not applicable	
Bake & I-5/I-405 SB Ramps	Irvine	Convert second EB right-turn lane to third left-turn lane	Fully fund	100%
Culver & Irvine	Irvine	Add fourth WB through lane	Fully fund	100%
Jeffrey & Walnut/I-5 SB	Irvine	Convert WB through lane to shared through/second right-turn lane	Fully fund	100%
Sand Canyon & I-5 NB Ramps	Irvine	Add third SB through lane, NB right-turn lane, NB shared third through lane/second right-turn lane, second EB through lane, second WB through lane and second WB left-turn lane	Fully fund	100%

Location	Jurisdiction	Improvement	Funding Obligation	Project Share
IMPACTED INTERSECTIONS (CONTINUED)				
Sand Canyon & I-5 SB Ramps	Irvine	Add third NB through lane	Fully fund	100%
Sand Canyon & Irvine Center	Irvine	Add second SB right-turn lane	Fully fund	100%
Technology & Barranca	Irvine	Add dual SB right-turn lanes	Fully fund	100%
Lake Forest & Avd. Carlota	Irvine/ Laguna Hills	Convert second WB right-turn lane to shared second left-turn/second right-turn lane	Fair share	17%
Bake & Jeronimo	Irvine/ Lake Forest	Add second NB and SB left-turn lanes	Fully fund	100%
Bake & Toledo	Irvine/ Lake Forest	Add WB right-turn lane	Fully fund	100%
Jamboree & Portola	Irvine/Tustin	Convert second WB through lane to second right-turn lane	Fully fund	100%
Jamboree & Tustin Ranch	Irvine/Tustin	Add fourth NB through lane	Fair share	3%
Alicia & Paseo Valencia	Laguna Hills	Add second EB right-turn lane	Fair share	15%
El Toro & Paseo Valencia	Laguna Hills	Add EB right-turn lane	Fully fund	100%
La Paz & Cabot/I-5 SB	Laguna Hills	Add EB right-turn lane	Fair share	19%
Laguna Hills & P. Valencia	Laguna Hills/ Laguna Woods	Add EB right-turn lane and convert third EB through lane to shared third through/second right-turn lane	Fair share	13%
El Toro & Jeronimo	Lake Forest	Add second SB left-turn lane	Fair share	27%
El Toro & Rockfield	Lake Forest	Add fourth NB and SB through lanes and EB right-turn lane	Fair share	21%
Los Alisos & Rockfield	Lake Forest	Add second NB left-turn lane	Fully fund	100%
Alicia & Jeronimo	Mission Viejo	Add second NB left-turn lane	Fair share	20%
Red Hill & I-5 NB Ramps	Tustin	Add WB shared second left-turn/ second right-turn lane	Fully fund	100%
Red Hill & Irvine	Tustin	Convert NB right-turn lane to shared second through/right-turn lane	Fair share	8%
IMPACTED ARTERIAL ROADS				
Irvine (ETC East Leg to Research)	County	Improve to six lanes	Fully fund	100%
Irvine (Jeffrey to Sand Canyon)	County	Improve to six lanes	Fully fund	100%
Santiago Canyon (east of ETC)	County	Improve to six lanes	Fully fund	100%
Trabuco (ETC East Leg to Research)	County	Improve to eight lanes	Fully fund	100%
Trabuco (Jeffrey to Sand Canyon)	County	Improve to four lanes	Fully fund	100%
Laguna Canyon (south of El Toro)	Laguna Beach/County	Improve to four lanes	Fair share	14%
Irvine (Yale to Jeffrey)	Irvine	Improve to six lanes	Fully fund	100%
Jamboree (north of Tustin Ranch)	Tustin/Irvine	Improve to six lanes	Fair share	3%

Location	Jurisdiction	Improvement	Funding Obligation	Project Share
IMPACTED FREEWAY/TOLLWAY RAMPS				
I-5 at Alton (NB Direct On-Ramp)	Caltrans/ Irvine	Add a third mixed-flow lane at the ramp meter	Fully fund	100%
I-5 at Bake (SB Loop On-Ramp)	Caltrans/ Irvine	Convert HOV preferential lane to a Add second metered mixed-flow lane	Fully fund	100%
I-5 at Jamboree (NB Off-Ramp)	Caltrans/ Irvine	Add second drop lane from freeway mainline to off-ramp	Fair share	13%
I-5 at Sand Canyon (NB On-Ramp)	Caltrans/ Irvine	Convert HOV preferential lane to a Add second metered mixed-flow lane	Fully fund	100%
I-405 at Sand Canyon (NB Direct On-Ramp)	Caltrans/ Irvine	Convert HOV preferential lane to a Add second metered mixed-flow lane	Fully fund	100%
I-5 at La Paz (SB Off-Ramp)	Caltrans/ Laguna Hills	Add second drop lane from freeway mainline to off-ramp	Fair share	22%
I-5 at El Toro (NB Loop On-Ramp)	Caltrans/ Lake Forest	Convert HOV preferential lane to a Add second metered mixed-flow lane	Fair share	12%
ETC East Leg (SR-241) at Santiago Canyon (NB Off-Ramp)	Caltrans/ TCA/ County	Add second drop lane from tollway mainline to off-ramp	Fully fund	100%
ETC East Leg (SR-133) at Trabuco (NB Off-Ramp)	Caltrans/ TCA/ County	Provide two lanes from the SB I-5 connector ramp in addition to one lane from the NB I-5 connector ramp	Fully fund	100%
FTC (SR-241) at Portola East (NB Off-Ramp)	Caltrans/ TCA/ Lake Forest	Add second drop lane from tollway mainline to off-ramp	Fair share	17%
Location	Jurisdiction	Improvement	Project Share of Future Traffic	
IMPACTED FREEWAY/TOLLWAY SEGMENTS				
ETC (north of FTC/SR-133)	Caltrans/ TCA	Implementation of Caltrans Traffic Operations Strategies (TOPS)	16%	
FTC (Alton to south of Portola East)	Caltrans/ TCA	Implementation of Caltrans TOPS	11%-13%	
I-5 (Alton to north of SR-55)	Caltrans	Implementation of Caltrans TOPS	7%-17%	
I-5 (El Toro to La Paz)	Caltrans	Implementation of Caltrans TOPS	10%-11%	
I-405 (Jamboree to north of SR-55)	Caltrans	Implementation of Caltrans TOPS	8%-12%	
I-405 (Culver to Sand Canyon)	Caltrans	Implementation of Caltrans TOPS	15%-16%	
SR-55 (Edinger to north of Irvine/Fourth)	Caltrans	Implementation of Caltrans TOPS	4%-6%	
SR-55 (I-405 to SR-73)	Caltrans	Implementation of Caltrans TOPS	8%	
Abbreviations: NB – northbound EB – eastbound SB – southbound WB – westbound				

In comparison, as discussed in detail in Section 4.3.6.6 of this Draft EIR No. 573, as supplemented, under the Proposed Project phasing years, four intersection locations, two arterial roadway segments, one continuous freeway mainline segment, and one freeway ramp would be significantly impacted under Phase 1 conditions (2005); five intersection locations, two arterial roadway segments, one continuous freeway mainline segment, and one freeway ramp would be significantly impacted under Phase 2 conditions (2010); and nine intersection locations, two arterial roadway segments, one continuous freeway mainline segment, and two freeway ramps would be significantly impacted under Phase 3 conditions (2015). At Phase 4 build out, the Proposed Project would result in significant impacts not previously identified to four freeway/tollway mainline segments and four freeway/tollway ramps. See Supplemental Analysis, Section 4.3.6.5. In each case, however, the identified impacts will be mitigated to a level below significant during the applicable phasing year (see Section 4.3.7.2, Table 4.3-20). Please refer to the Comparison of Alternative Impacts to Proposed Project Impacts, which follows below, for a facility-by-facility comparison of the ETRPA Nonaviation Alternative and the Proposed Project at build out.

Comparison of Alternative Impacts to Proposed Project Impacts

This alternative generates 339,616 daily trips from the MCAS El Toro site compared to the Proposed Project's 176,123 daily trips at MCAS El Toro. This alternative would not decrease traffic at JWA, whereas the Proposed Project would decrease JWA trips by 14,760.

Comparison to Existing Conditions

A comparison of the impacts of the Existing plus ETRPA Nonaviation Plan Alternative and Existing plus Proposed Project is as follows:

Impacted Intersections

The following intersections are impacted by both the Proposed Project and the ETRPA Nonaviation Plan Alternative:

- Bake & Portola
- Sand Canyon & Trabuco
- Bake & I-5/I-405 SB Ramps
- Bake & Rockfield
- Jeffrey & Alton
- Jeffrey & I-405 NB Ramps
- Jeffrey & I-405 SB Ramps
- Jeffrey & Walnut/I-5 SB
- Sand Canyon & I-5 NB Ramps
- Sand Canyon & I-5 SB Ramps

- Irvine Center & Lake Forest
- Bake & Irvine/Trabuco
- Bake & Toledo
- Los Alisos & Muirlands
- Alicia & Jeronimo
- Newport & Old Irvine

The following intersections are impacted by the ETRPA Nonaviation Plan Alternative only:

- E. Central Park & Irvine
- Millennium & Barranca
- Millennium & Central Park
- Millennium & Irvine
- Millennium & Jeronimo
- Millennium & Marine
- Millennium & Rockfield
- Research & Irvine
- Trabuco & Irvine
- W. Central Park & Irvine
- W. Central Park & Portola
- Alton & Irvine
- Alton & Toledo
- Bake & I-5/I-405 NB Ramps
- I-5 HOV Ramps & Barranca
- I-5 NB Ramps & Alton
- Technology & Barranca
- Bake & Jeronimo
- Jamboree & Irvine
- La Paz & Cabot/I-5 SB
- Bake & Commercentre
- El Toro & Rockfield
- Lake Forest & Jeronimo
- Lake Forest & Rockfield
- Lake Forest & Trabuco
- Alicia & Muirlands
- La Paz & Muirlands/I-5 NB

Impacted Arterial Roads

The following arterials roads are impacted by both the Proposed Project and the ETRPA Nonaviation Plan Alternative:

- Laguna Canyon (I-405 to SR-73)

The following arterials are impacted by the ETRPA Nonaviation Plan Alternative only:

- Irvine (Jeffrey to Research)
- Irvine (Millennium to Trabuco)
- Portola (W. Central Park to FTC)
- Laguna Canyon (south of El Toro)
- Irvine (Alton to Bake)
- Sand Canyon (Trabuco to I-5)
- Bake (north of Irvine/Trabuco)

The Proposed Project impacts the following additional arterials:

- Laguna Canyon (south of El Toro)
- Culver (Bryan to Trabuco)

Impacted Freeway Ramps

The following freeway ramps are impacted by both the Proposed Project and the ETRPA Nonaviation Plan Alternative:

- I-5 at Sand Canyon – NB On
- I-5 at Sand Canyon – SB Off
- I-405 at Sand Canyon (NB Direct On-Ramp)

The following freeway ramps are impacted by the ETRPA Nonaviation Plan Alternative only:

- I-5 at Bake – SB Loop On-ramp
- I-5 at Bake – NB Direct On-ramp
- I-5 at Jeffrey (SB Off-Ramp)
- I-5 at La Paz (SB Off-Ramp)
- SR-133 at Barranca (SB On-Ramp)

The following freeway ramp is impacted by the Proposed Project only:

- I-5 at Culver – SB Off

Impacted Freeway Mainline Segments

The following freeway mainline segments are impacted by both the Proposed Project and the ETRPA Nonaviation Plan Alternative:

- I-5 (Jeffrey to north of SR-55)

The following freeway mainline segments are impacted by the ETRPA Nonaviation Plan Alternative only:

- I-5 (Jeffrey to Sand Canyon)
- I-405 (MacArthur to north of SR-55)
- SR-55 (I-5 to MacArthur)
- SR-55 (I-405 to SR-73)

Comparison to Existing Plus Committed Conditions

Impacted Intersections

The following intersections are impacted by both the Proposed Project and the ETRPA Nonaviation Plan Alternative:

- ETC East Leg NB & Irvine
- Sand Canyon & Trabuco
- Jeffrey & Irvine
- Sand Canyon & I-5 NB Ramps
- Sand Canyon & I-5 SB Ramps
- Alicia & Paseo Valencia
- La Paz & Cabot/I-5 SB
- El Toro & Rockfield
- Alicia & Jeronimo
- Red Hill & I-5 NB Ramps
- Red Hill & Irvine

The following intersections are impacted by the ETRPA Nonaviation Plan Alternative only:

- ETC NB Off & Santiago Canyon
- Lake Forest & Portola
- Millennium & Alton
- Millennium & Irvine
- Moulton & Laguna Hills
- Research & Irvine

- Trabuco & Irvine
- W. Central Park & Irvine
- Alton & Jeronimo
- Bake & I-5/I-405 NB Ramps
- Bake & I-5/I-405 SB Ramps
- Culver & Irvine
- Jeffrey & Walnut/I-5 SB
- Sand Canyon & Irvine Center
- Technology & Barranca
- Lake Forest & Avd. Carlota
- Bake & Jeronimo
- Bake & Toledo
- Jamboree & Portola
- Jamboree & Tustin Ranch
- El Toro & Paseo Valencia
- Laguna Hills & P. Valencia
- El Toro & Jeronimo
- Los Alisos & Rockfield

The following intersections are impacted by the Proposed Project only:

- Sand Canyon & Irvine
- Jeffrey & Trabuco
- Tustin Ranch & Irvine

Impacted Arterial Roads

The following arterial roads are impacted by both the Proposed Project and the ETRPA Nonaviation Plan Alternative:

- Irvine (Jeffrey to Sand Canyon)
- Laguna Canyon (south of El Toro)

The ETRPA Nonaviation Plan Alternative alone impacts the following arterials:

- Irvine (ETC East Leg to Research)
- Santiago Canyon (east of ETC)
- Trabuco (ETC East Leg to Research)
- Trabuco (Jeffrey to Sand Canyon)
- Irvine (Yale to Jeffrey)

The Proposed Project alone impacts the following arterials:

- Irvine (ETC East Leg to PA 2 East Access Road)
- Portola (ETC West Leg to Culver)

Impacted Freeway/Tollway Ramps

The following freeway/tollway ramps are impacted by both the Proposed Project and the ETRPA Nonaviation Plan Alternative:

- I-5 at Jamboree (NB Off-Ramp)
- I-5 at La Paz (SB Off-Ramp)
- I-405 at Sand Canyon (NB Direct On-Ramp)
- FTC (SR-241) at Portola East (NB Off-Ramp)

The ETRPA Nonaviation Plan Alternative alone impacts the following freeway/tollway ramps:

- ETC East Leg (SR-241) at Santiago Canyon (NB Off-Ramp)
- ETC East Leg (SR-133) at Trabuco (NB Off-Ramp)
- I-5 at Alton (NB Direct On-Ramp)
- I-5 at Bake (SB Loop On-Ramp)
- I-5 at El Toro (NB Loop On-Ramp)
- I-5 at Sand Canyon (NB On-Ramp)

The following freeway ramp is impacted by the Proposed Project only:

- I-5 at Red Hill (SB On-Ramp)

Impacted Freeway/Tollway Mainline Segments

The following freeway/tollway mainline segments are impacted by both the Proposed Project and the ETRPA Nonaviation Plan Alternative:

- FTC (Alton to south of Portola East)
- I-5 (Alton to north of SR-55)
- I-405 (Jamboree to north of SR-55)
- I-405 (Jeffrey to Sand Canyon)

The following freeway/tollway mainline segments are impacted by the ETRPA Nonaviation Plan Alternative only:

- ETC (north of FTC/SR-133)
- I-5 (El Toro to La Paz)
- I-405 (Culver to Jeffrey)
- SR-55 (Edinger to north of Irvine/Fourth)
- SR-55 (I-405 to SR-73)

The following freeway mainline segment is impacted by the Proposed Project only:

- I-5 (I-405 to Alton)

Level of Significance After Mitigation

Under this alternative, impacts to one location cannot be mitigated to below a level of significance. With the Proposed Project, all impacts will be reduced to below a level of significance.

8.3.5.4 Noise

Aircraft Noise

~~The noise impacts of this alternative would be comparable to “No Project” Compared to existing conditions at JWA., this alternative would create significant adverse noise impacts since JWA would have to be expanded to handle additional passengers that could not be accommodated on the MCAS El Toro site. Therefore, it is anticipated that there would be a sizable increase in the 60 and 65 CNEL noise contour around JWA in comparison to both the 1998 and 1985 airport noise contours. The total number of jet carrier SENEL events would also increase. However, a possible consequence of this alternative is pressure on the County to expand JWA to respond to growth in aviation demand, and to relax existing restrictions on the use of JWA, including nighttime restrictions. Even with the mitigation measures proposed for the Proposed Project and the ETRPA Nonaviation Alternative, the aviation impacts of this alternative would not be reduced to below a level of insignificance because of the sleep disturbance that would be created by the increased number of airplanes that would use JWA and the possible increase in nighttime operations if existing restrictions were relaxed.~~

Traffic Noise

Noise associated with vehicular traffic for this project alternative was conducted using the FHWA highway noise model. The FHWA model uses traffic volumes, vehicle mix, average vehicle speeds, road geometry, and sound propagation path characteristics to predict hourly A-weighted LEQ values adjacent to a road. Vehicle mix is reported in terms of the number of automobiles, medium trucks, and heavy trucks. The truck categories are defined in the FHWA model by number of axles and weight. To compute a CNEL value for roads, the hourly data for a 24 hour period are used according to the CNEL formula. Vehicle distribution over the 24 hour day must be known, that is, the percentage of vehicles in the daytime period between 7 a.m. and 7 p.m., in the evening period between 7 p.m. and 10 p.m., and in the night period between 10 p.m. and 7 a.m. To determine the location of noise contours, noise levels are calculated at a large number of distances and the location of constant value CNEL is determined.

Table 8.3-4 shows the existing road links included in the Airport System Master Plan (ASMP) with traffic volumes provided in the traffic report by Austin-Foust Associates. Table 8.3-5 shows road links that would have a potential noise increase greater than 1.5 dB over the existing conditions for the ETRPA Nonaviation Plan Alternative (Existing Plus ETRPA Nonaviation Plan Conditions). A total of 12 road links would have a traffic noise increase between 1.5 and 3.0 dB. A total of 15 road links would have an increase of more than 3 dB over their corresponding existing conditions levels. The noise level increase along these road links, due to the implementation of the ETRPA Nonaviation Plan Alternative, would be considered significant. Except along Portola Parkway west of Jamboree Road, where the 60 dB CNEL noise contour would remain within the roadway right-of-way, existing residences along these other road links may be exposed to traffic noise exceeding 65 dB CNEL.

Table 8.3-6 shows the noise levels along the new road links that would be constructed with the implementation of the ETRPA Nonaviation Plan Alternative under the existing condition. Because no road traffic exists for comparison with these road links, their impacts are based on whether there is a potential for existing residences adjacent to these road links to experience noise level exceeding 65 dB CNEL. Except for areas along portions of East Central Park and East Culture, most of these road links would have the 65 dB CNEL noise contour extend outside the right-of-way and potentially impact residences along the road.

Table 8.3-7 shows the noise levels along existing road links that would have 1.5 dB or more noise increases in year 2020 under the no project scenario (Alternative E) over the existing conditions. There would be 58 road links that would have 1.5 to 3.0 dB increase in traffic noise over their corresponding existing level. A total of 115 road links would have 3 dB or

Airport System Master Plan - ASMP 1997 (Reference CNELs for existing segments)		CNEL RESULTS						
ID #	New Segment Names	ADT	Spd. (mph)	# of Lanes	CNEL at 50% C.R. (dBA)	70 dB CNEL (FL)	65 dB CNEL (FL)	60 dB CNEL (FL)
3	17th w/o Prospect	22100	30	4	66	< RdHW	52	111
1	17th w/o SR-55	32600	30	6	67.7	< RdHW	67	144
2	17th w/o Yorba	27600	30	6	67	< RdHW	60	130
4	17th w/o Newport	13900	30	4	64.6	< RdHW	42	90
30	1st w/o El Camino Real	18100	30	4	65.1	< RdHW	46	98
31	1st w/o Newport	15300	30	4	64.4	< RdHW	40	87
28	1st w/o Tustin	18500	35	4	66.9	29	62	134
29	1st w/o Yorba	17800	30	4	65.1	< RdHW	45	97
13	4th w/o SR-55	29000	40	6	70.3	50	108	232
12	4th w/o Tustin	20200	40	6	68.7	40	86	184
459	Alicia w/o Marguerite	25800	50	6	72.1	71	153	330
463	Alicia w/o I-5	60500	45	6	74.7	103	222	477
461	Alicia w/o Jeronimo	40500	45	6	73	78	168	362
462	Alicia w/o Muirlands	56300	45	6	74.4	98	212	456
460	Alicia w/o Trabuco	34400	45	6	72.3	70	151	325
464	Alicia w/o I-5	49100	45	6	73.8	90	193	416
466	Alicia w/o Moulton	36600	45	6	72.5	73	158	341
465	Alicia w/o Paseo Valencia	43300	45	6	73.3	82	176	379
381	Aliso Creek w/o El Toro	18400	55	4	71.7	68	146	315
382	Aliso Creek w/o Laguna Hills	18300	55	4	71.7	68	146	315
383	Aliso Crk w/o Laguna Hills	26500	55	4	73.3	87	187	403
104	Alton w/o Culver	24200	45	4	70.7	56	120	258
114	Alton w/o I-5	42300	55	8	75.3	118	254	548
113	Alton w/o Irvine Center	24900	55	6	73	83	179	385
102	Alton w/o Jamboree	18300	50	4	70.7	57	122	262
111	Alton w/o Laguna Canyon	14700	55	4	70.7	59	128	275
106	Alton w/o Lake	20600	45	4	70	50	108	232
100	Alton w/o Red Hill	14700	50	4	69.7	49	106	229
110	Alton w/o Sand Canyon	16900	55	4	71.3	63	140	301
105	Alton w/o West Yale Loop	22900	45	4	70.5	54	116	251
395	Alton w/o Jeronimo	22700	55	6	72.6	78	168	362
396	Alton w/o Muirlands	32500	55	6	74.2	100	215	463
394	Alton w/o Irvine	12100	55	6	69.9	52	111	239
397	Alton w/o Muirlands	28800	55	6	73.6	92	199	429
390	Alton w/o Portola	3800	55	6	64.8	< RdHW	52	111
103	Alton w/o Culver	15900	50	6	70	52	111	239
107	Alton w/o East Yale Loop	20100	50	4	71.1	60	130	279
112	Alton w/o Irvine Center	14400	55	4	70.6	58	126	271
101	Alton w/o Jamboree	16900	50	4	70.3	54	116	251
108	Alton w/o Jeffrey	25900	50	4	72.2	71	153	330
99	Alton w/o Red Hill	4300	50	4	64.4	< RdHW	46	100
109	Alton w/o Sand Canyon	15000	50	4	69.8	50	108	232
363	Avd Carlota w/o El Toro	15400	40	4	67.5	33	71	153
360	Avd Carlota w/o Lake Forest	10400	45	4	67.1	32	68	146
361	Avd Carlota w/o Ridge Route	14700	45	4	68.6	40	86	184
362	Avd Carlota w/o El Toro	29800	45	4	71.6	64	138	297
399	Bake w/o Commerce Centre	30800	55	4	73.9	97	208	449
405	Bake w/o I-5	64900	50	8	76.1	132	283	610
400	Bake w/o Irvine/Trabuco	36200	55	6	74.6	108	232	500
402	Bake w/o Jeronimo	43700	50	6	74.4	101	218	470
403	Bake w/o Muirlands	58600	50	6	75.7	124	266	574
404	Bake w/o Rockfield	52000	50	6	75.2	115	247	532
406	Bake w/o I-5	4500	50	6	64.6	< RdHW	48	103
401	Bake w/o Irvine/Trabuco	41200	50	6	74.2	97	208	449
398	Bake w/o Portola	30800	55	4	73.9	97	208	449
136	Baker w/o SR-55	15100	40	4	67.4	33	70	151

Airport System Master Plan - ASMP 1997 (Reference CNELs for existing segments)		CNEL RESULTS						
ID #	New Segment Names	ADT	Spd. (mph)	# of Lanes	CNEL at 50% C.R. (dBA)	70 dB CNEL (FL)	65 dB CNEL (FL)	60 dB CNEL (FL)
135	Baker w/o SR-55	27100	40	4	70	48	103	222
87	Barranca w/o Culver	25100	45	4	70.9	57	124	266
96	Barranca w/o Irvine Center	16100	55	4	71.1	63	136	292
85	Barranca w/o Jamboree	24700	50	6	72	69	149	320
94	Barranca w/o Laguna Canyon	3200	55	4	64.1	< RdHW	46	98
89	Barranca w/o Lake	19000	50	4	70.8	58	126	271
83	Barranca w/o Red Hill	33000	50	4	73.2	84	182	391
93	Barranca w/o Sand Canyon	4400	55	4	65.5	26	57	122
98	Barranca w/o Technology	14800	50	4	69.7	49	106	229
88	Barranca w/o West Yale Loop	22300	45	4	70.4	53	115	247
347	Barranca w/o Alton	13300	50	4	69.3	46	98	212
86	Barranca w/o Culver	22300	50	6	71.5	65	140	301
90	Barranca w/o East Yale Loop	18300	50	4	70.7	57	122	262
95	Barranca w/o Irvine Center	10900	55	4	69.4	48	104	225
84	Barranca w/o Jamboree	28900	50	6	72.6	77	166	357
91	Barranca w/o Jeffrey	16700	50	4	70.3	53	115	247
97	Barranca w/o Technology	18400	55	4	71.7	68	146	315
142	Birch w/o MacArthur	9500	40	4	65.4	< RdHW	52	111
199	Birch w/o North Bristol	14800	40	4	67.3	32	69	149
200	Birch w/o North Bristol	5900	40	4	4.5	< RdHW	37	80
201	Birch w/o South Bristol	5900	40	2	63.3	17	37	80
143	Birch w/o Jamboree	7400	40	4	64.3	< RdHW	44	94
145	Bristol w/o Red Hill	30000	45	4	71.7	64	138	297
144	Bristol w/o Red Hill	25200	45	4	70.9	57	124	266
202	Browning w/o Bryan	2900	40	4	68.3	< RdHW	< RdHW	50
203	Browning w/o El Camino Real	2400	40	4	59.4	< RdHW	< RdHW	44
204	Browning w/o Walnut	2600	35	2	58.4	< RdHW	17	36
39	Bryan w/o Culver	7800	45	4	65.8	26	57	122
38	Bryan w/o Jamboree	11400	45	4	67.5	34	72	156
35	Bryan w/o Browning	12400	40	4	66.6	28	61	132
37	Bryan w/o Jamboree	12600	45	4	67.9	36	78	168
40	Bryan w/o Jeffrey	5200	50	4	65.2	25	53	115
34	Bryan w/o Red Hill	14300	40	4	67.2	32	68	146
36	Bryan w/o Tustin Ranch	12200	45	4	67.8	35	76	163
139	Campus w/o Jamboree	19100	45	4	69.7	48	103	222
137	Campus w/o MacArthur	29600	40	4	68.8	40	86	184
141	Campus w/o University	20700	45	4	70.1	50	108	232
195	Campus w/o North Bristol	31400	45	6	71.9	66	142	306
196	Campus w/o North Bristol	27500	45	4	71.3	61	132	283
138	Campus w/o Jamboree	15000	40	4	67.4	33	70	151
140	Campus w/o University	18300	45	2	69.5	46	100	215
238	Carlson w/o Michelson	2300	35	6	57.8	< RdHW	< RdHW	< RdHW
323	Commerce Centre w/o Bake	500	45	4	53.9	< RdHW	< RdHW	< RdHW
255	Culver w/o Alton	44400	55	6	75.5	124	266	574
254	Culver w/o Barranca	43100	55	6	75.4	120	258	557
249	Culver w/o Bryan	16800	45	3	69.2	44	94	202
257	Culver w/o I-405	50900	45	4	74	91	196	422
252	Culver w/o Irvine Center	43200	55	6	75.4	120	258	557
256	Culver w/o Main	45300	55	6	75.6	124	266	574
250	Culver w/o Trabuco/I-5	27500	45	3	71.3	60	138	279
253	Culver w/o Warner	44200	55	6	75.5	122	262	565
258	Culver w/o I-405	49500	45	6	74	96	193	416
259	Culver w/o Michelson	36000	45	6	72.5	72	136	335
260	Culver w/o University	37100	45	6	72.6	75	161	346
152	Del Mar w/o Newport (NB)	9600	30	2	62.4	14	30	64
153	Del Mar w/o Irvine	6400	30	2	60.6	< RdHW	23	49
82	Dyer w/o SR-55	43300	40	6	72	66	142	306
81	Dyer w/o Hotel Terrace	32500	40	6	70.8	54	116	251
273	East Yale Loop w/o Alton	11500	45	4	67.5	34	73	158
272	East Yale Loop w/o Barranca	10100	45	4	66.9	31	67	144

EIR No. 573

County of Orange

Table 8.3-4

SOURCE: LSA Associates, Inc., 9/99

Traffic Noise Model Results
Existing Conditions

Airport System Master Plan - ASMP 1997
(Reference CNELs for existing segments)

ID #	New Segment Names	ADT	Spk. (mph)	# of Lanes	CNEL at 70 dB SRA.C.R. (dBA)	CNEL (dBA)	65 dB CNEL (dBA)	60 dB CNEL (dBA)
278	Jeffrey w/o Irvine	17800	60	4	72.5	79	171	308
280	Jeffrey w/o Trabuco	24800	60	6	74	98	212	456
332	Jeffrey w/o Walnut-5	32200	23	5	74.1	100	215	463
344	Arroyo w/o Alicia	16200	45	4	69	43	92	57
338	Arroyo w/o Altan	8000	41	4	65.9	27	57	124
342	Arroyo w/o El Toro	20400	45	4	70	30	108	232
340	Arroyo w/o Lake Forest	13600	45	4	68.2	38	82	176
343	Arroyo w/o Los Altos	17700	45	4	69.4	29	63	136
346	Arroyo w/o Marguerite	9100	45	4	66.5	46	98	212
341	Arroyo w/o El Toro	14200	45	4	68.4	39	84	182
339	Arroyo w/o Lake Forest	11500	45	4	67.3	34	73	158
345	Arroyo w/o Marguerite	13000	45	4	68	37	79	171
467	La Paz w/o Marguerite	18900	45	4	69.7	47	101	218
471	La Paz w/o Moulton	15500	45	4	68.8	42	90	193
468	La Paz w/o Moulton	39800	45	4	72.9	78	168	362
469	La Paz w/o Colton-5	19200	35	4	67.1	30	64	138
472	La Paz w/o Moulton	16200	45	4	69.4	43	92	199
470	La Paz w/o Paseo Valencia	17600	45	4	69.4	43	92	199
305	Laguna Canyon w/o Altan	15800	45	4	68.7	43	92	199
388	Laguna Canyon w/o El Toro	18800	35	2	66.9	29	63	136
387	Laguna Canyon w/o SHTC	27500	45	3	73.4	90	193	416
306	Laguna Canyon w/o Altan	3100	45	2	61.8	14	31	66
389	Laguna Canyon w/o El Toro	32800	45	2	72.1	68	146	315
603	Laguna Cyn w/o L-03	28000	35	4	68.7	38	82	176
438	Laguna Hills w/o Moulton	15000	30	4	69.8	30	108	232
456	Laguna Hills w/o Altan Oak	3100	30	6	62.9	37	89	196
457	Laguna Hills w/o Moulton	16500	30	6	70.2	33	113	243
412	Lake Forest w/o L-5	53200	35	6	71.5	58	128	271
415	Lake Forest w/o Arroyo	27100	50	6	72.4	73	138	341
416	Lake Forest w/o Murrieta	27800	40	6	70.1	48	104	223
411	Lake Forest w/o Rambo	11600	50	4	68.7	42	90	193
417	Lake Forest w/o Rockfield	35800	40	6	71.2	57	124	266
413	Lake Forest w/o Trabuco	17700	50	4	72.3	73	138	341
412	Lake Forest w/o Rambo	11700	50	4	69.3	42	90	196
414	Lake Forest w/o Trabuco	13500	50	4	69.3	42	90	196
419	Lake Forest w/o Trabuco	27600	35	6	72.4	73	138	341
420	Lake Forest w/o Moulton	26900	35	6	68.5	37	79	171
445	Los Altos w/o Moulton	10400	45	6	67.1	30	64	138
449	Los Altos w/o Marguerite	6980	50	4	66.4	30	64	138
450	Los Altos w/o Arroyo	20600	50	6	72.7	78	168	362
451	Los Altos w/o Murrieta	28500	50	6	72.6	76	163	351
448	Los Altos w/o Rockfield	28900	50	4	72.6	77	166	357
453	Los Altos w/o S. Marguerite	24100	50	4	66.8	31	67	144
452	Los Altos w/o Avd Carls	22700	45	6	71.8	68	146	315
447	Los Altos w/o Rockfield	24800	45	4	70.8	57	122	262
116	MacArthur w/o SR-51	14000	50	6	69.5	48	103	222
189	MacArthur w/o L-03	38900	45	8	73.9	94	202	435
194	MacArthur w/o Jamboree	46100	45	8	73.3	86	184	387
188	MacArthur w/o Main	26700	35	6	73.3	87	187	403
193	MacArthur w/o Michelton	27100	50	6	72.4	73	138	341
192	MacArthur w/o Michelton	53100	45	8	74.2	94	202	435
191	MacArthur w/o Campes	27400	50	6	72.4	75	136	341
115	MacArthur w/o SR-55	40600	50	6	74.1	97	208	449
124	Main w/o Culver	53500	50	6	75.3	116	251	540
122	Main w/o Jamboree	14900	50	4	69.8	49	108	229
120	Main w/o MacArthur	29400	50	6	72.7	78	168	362
117	Main w/o Sunflower	33200	50	6	73.2	84	182	391
		22800	40	6	69.2	43	92	199

Airport System Master Plan - ASMP 1997
(Reference CNELs for existing segments)

ID #	New Segment Names	ADT	Spk. (mph)	# of Lanes	CNEL at 70 dB SRA.C.R. (dBA)	CNEL (dBA)	65 dB CNEL (dBA)	60 dB CNEL (dBA)
623	Main w/o Culver	11600	50	4	68.7	42	90	193
32	Main w/o Camino Real	9400	30	2	62.3	14	29	63
121	Main w/o Jamboree	24000	50	6	71.8	68	146	315
119	Main w/o MacArthur	26500	50	4	62.9	72	156	335
33	Main w/o Newport	10700	30	4	62.9	32	69	149
118	Main w/o Red Hill	24600	30	4	71.9	69	149	320
476	Marguerite w/o Alicia	19200	45	4	69.7	48	103	222
478	Marguerite w/o Arroyo	24900	45	4	70.9	57	122	262
479	Marguerite w/o La Paz	32500	45	4	72	68	146	315
475	Marguerite w/o Olympiad	23300	45	4	70.6	54	116	231
474	Marguerite w/o S. Marguerite	9200	45	4	66.5	29	63	136
477	Marguerite w/o Trabuco	17900	45	4	69.4	46	98	212
473	Marguerite w/o El Toro	10300	45	4	67	32	68	146
480	Marguerite w/o La Paz	31600	45	4	71.9	67	144	311
50	McPherson w/o Culver	12000	35	4	65.1	21	46	100
130	Michelton w/o Walnut	12000	35	2	65	21	46	100
127	Michelton w/o Jamboree	28700	45	4	71.3	63	136	292
125	Michelton w/o MacArthur	19500	45	4	69.8	48	104	225
129	Michelton w/o Culver	18600	45	4	69.6	47	101	218
126	Michelton w/o Hayward	18900	45	2	69.7	47	101	218
131	Michelton w/o Jamboree	25100	45	4	70.9	57	124	266
377	Moulton w/o University	4700	35	2	60.9	32	75	54
374	Moulton w/o El Toro	24400	35	6	72.9	81	179	383
378	Moulton w/o La Paz	37600	45	6	72.7	75	161	346
375	Moulton w/o El Toro	20700	45	6	70.1	50	108	232
376	Moulton w/o Lake Forest	35600	45	6	72.4	72	156	335
379	Moulton w/o Lake Forest	26800	35	6	73.3	88	190	410
372	Moulton w/o La Paz	16900	45	6	69.2	44	95	203
373	Moulton w/o Ridge Route	33900	45	6	72.2	70	151	325
354	Murrieta w/o Alicia	37700	45	6	72.2	70	151	325
348	Murrieta w/o Altan	17800	40	4	68.1	36	78	168
352	Murrieta w/o El Toro	13200	50	4	69.2	46	98	212
350	Murrieta w/o Lake Forest	19600	45	4	69.8	48	104	223
351	Murrieta w/o Los Altos	19700	45	4	69.8	48	104	223
351	Murrieta w/o Los Altos	19800	40	4	68.6	39	84	182
351	Murrieta w/o El Toro	19200	40	4	69.7	48	103	222
349	Murrieta w/o Lake Forest	16600	45	4	69.1	44	94	202
164	Newport w/o L-5	34700	35	4	69.6	44	94	202
161	Newport w/o Old Irvine	27900	35	4	68.7	38	82	176
163	Newport w/o L-5/Nitron	29100	35	4	68.8	39	84	182
162	Newport w/o Irvine	26900	35	4	68.5	37	79	171
163	Newport w/o Main	29400	35	4	68.9	39	84	182
166	Newport w/o Walnut	12100	35	4	65	27	57	124
147	North Bristol w/o Birch	23800	45	4	71.2	60	130	279
146	North Bristol w/o Campes	34600	45	4	72.3	71	153	330
324	North Bristol w/o Jamboree	16000	45	3	68.9	42	91	196
324	Olympiad w/o Marguerite	8400	45	4	66.1	27	59	128
369	P. Valencia w/o La Paz	7900	45	4	65.9	27	57	124
364	P. Valencia w/o Avd Carls	10600	40	4	65.9	26	56	120
365	P. Valencia w/o El Toro	22800	40	6	69.2	43	92	199
366	P. Valencia w/o Los Altos	32800	45	6	72.1	68	146	315
367	P. Valencia w/o Alicia	11700	45	6	71.3	61	132	283
348	P. Valencia w/o La Paz	11700	45	6	67.6	29	63	136
134	Pasadena w/o SR-55	18600	40	4	68.3	37	80	173
133	Pasadena w/o SR-55	18600	40	4	68.3	37	80	173
111	Pomona w/o Sand Canyon	22800	65	4	74.5	109	236	508
316	Pomona w/o El Toro	20200	55	6	72.1	72	156	335
314	Pomona w/o Glenn Ranch	24700	55	6	73	83	179	385
310	Pomona w/o Altan	4900	55	4	65.9	28	61	132
311	Pomona w/o Blake	11300	55	6	69.6	49	106	229

EIR No. 573

SOURCE: LSA Associates, Inc., 9/99

County of Orange

Table 8.3-4 (Cont.)

Traffic Noise Model Results

Existing Conditions

CCTM2.6 MCAS El Toro		Airport System Master Plan - ASMP Existing						Nonaviation Plan - Existing						CNEL Increase dBA		
ID #	Existing Segment Names	ADT	Spd. (mph)	# of Lanes	CNEL at 50ft.C.R. (dBA)	70 dB CNEL (Ft.)	65 dB CNEL (Ft.)	60 dB CNEL (Ft.)	ADT	Spd. (mph)	# of Lanes	CNEL at 50ft.C.R. (dBA)	70 dB CNEL (Ft.)		65 dB CNEL (Ft.)	60 dB CNEL (Ft.)
394	Alton s/o Irvine	12100	55	6	69.9	49	106	229	24000	55	6	73.8	90	193	416	3.9
406	Bake s/o I-5	4300	50	6	64.6	< RdHW	47	101	9000	50	6	68.3	39	83	179	3.7
347	Barranca w/o Alton	13300	50	4	69.3	45	97	208	20000	50	4	71.8	66	142	306	2.5
97	Barranca w/o Technology	18400	55	4	71.7	65	140	301	27000	55	4	74.3	97	208	449	2.6
23	Irvine e/o Culver	23000	50	6	71.6	64	138	297	33000	50	6	74	92	199	429	2.4
26	Irvine e/o Sand Canyon	19700	65	4	70.1	51	109	236	43000	65	4	78.6	187	403	869	8.5
325	Irvine w/o Alton	18900	65	4	73.7	88	190	410	70000	65	4	80.5	231	540	1163	6.8
326	Irvine w/o Bake	24200	55	6	72.9	78	168	362	68000	55	6	78.3	179	385	830	5.4
24	Irvine w/o Jeffrey	22500	50	5	71.5	63	136	292	36000	50	5	74.4	98	212	456	2.9
25	Irvine w/o Sand Canyon	17400	65	4	73.9	91	196	422	38000	65	4	77.9	168	362	780	4
279	Jeffrey n/o Bryan	21200	60	6	73.3	83	179	385	30000	60	6	75.8	122	262	565	2.5
338	Jeromimo e/o Alton	8000	45	4	65.9	27	57	124	13000	45	4	68.6	40	87	187	2.7
5	Portola w/o Jamboree	600	45	4	54.7	< RdHW	< RdHW	< RdHW	1000	45	4	57.5	< RdHW	< RdHW	34	2.8
336	Rockfield w/o Lake Forest	18800	40	4	68.4	39	84	182	28000	40	4	70.5	54	116	251	2.1
299	Sand Canyon n/o Alton	16600	55	6	71.2	60	130	279	29000	55	6	74.6	101	218	470	3.4
300	Sand Canyon n/o I-405	18600	55	4	71.7	65	140	301	27000	55	4	74.3	97	208	449	2.6
295	Sand Canyon n/o I-5	25200	60	6	74	92	199	429	62000	60	6	79	199	429	924	5
294	Sand Canyon n/o Trabuco	17600	60	4	72.5	73	158	341	32000	60	4	76.1	128	275	592	3.6
297	Sand Cyn n/o Irvine Center	21600	50	6	71.4	62	134	288	40000	50	6	74.8	104	225	485	3.4
298	Sand Cyn s/o Irvine Center	16700	55	4	71.3	61	132	283	29000	55	4	74.6	101	218	470	3.3
74	Technology n/o Barranca	9800	35	4	64.1	< RdHW	44	94	17000	35	4	66.6	30	64	138	2.5
334	Toledo e/o Alton	7200	45	4	65.5	25	54	116	11000	45	4	67.9	36	78	168	2.4
335	Toledo w/o Lake Forest	9900	45	4	66.9	31	67	144	14000	45	4	68.9	42	91	196	2
327	Trabuco e/o Bake	22700	55	6	72.6	75	161	346	43000	55	6	76.3	132	283	610	3.7
48	Trabuco w/o Jeffrey	4100	55	4	65.2	< RdHW	52	111	7000	55	4	68.4	39	84	182	3.2
328	Trabuco w/o Lake Forest	28000	50	6	72.5	73	158	341	47000	50	6	75.5	116	251	540	3
49	Trabuco w/o Sand Canyon	3900	35	2	60.1	< RdHW	24	51	15000	35	2	66.1	27	59	128	6

EIR No. 573

County of Orange

Table 8.3-5

SOURCE: LSA Associates, Inc., 9/99

Traffic Noise Model Results
Existing plus ETRPA Nonaviation Plan -
Existing Segments with 1.5 dB or Higher
Traffic Noise Increase

CCTM2.8 EXISTING MCAS El Toro ETRPA Nonaviation Plan - New Segments		CNEL RESULTS						
		ADT	Spd. (mph)	# of Lanes	CNEL at 50ft.C.R. (dBA)	70 dB CNEL (FL)	65 dB CNEL (FL)	60 dB CNEL (FL)
500	Arts Village e/o E. Culture	11000	35	4	64.1	< RdHW	44	94
499	Arts Village e/o Millennium	13000	35	4	64.9	< RdHW	49	106
510	Astor e/o E. Central Park	5000	35	4	60.7	< RdHW	26	56
200	Birch s/o North Bristol	0	40	2	0	0	0	0
495	Bryan e/o Millennium	4000	50	4	64.2	< RdHW	44	95
494	Bryan e/o Research	4000	50	4	64.2	< RdHW	44	95
493	Bryan e/o Sand Canyon	6000	50	4	66	27	58	126
543	E. Central Park n/o Irvine	4000	35	4	59.8	< RdHW	< RdHW	48
545	E. Central Park n/o Trabuco	2000	35	4	56.7	< RdHW	< RdHW	30
547	E. Central Park s/o Astor	3000	35	4	58.5	< RdHW	< RdHW	40
544	E. Central Park s/o Irvine	11000	35	4	64.1	< RdHW	44	94
546	E. Central Park s/o Trabuco	3000	35	4	58.5	< RdHW	< RdHW	40
497	E. Culture e/o Millennium	4000	35	4	59.8	< RdHW	< RdHW	48
498	E. Culture n/o Trabuco	7000	35	4	62.2	< RdHW	33	70
491	Irvine e/o E. Central Park	42000	35	4	70	50	108	232
490	Irvine e/o Millennium	37000	35	4	69.4	46	98	212
488	Irvine e/o Research	39000	35	4	69.6	47	101	218
516	Jeronimo w/o Alton	13000	35	4	64.9	< RdHW	49	106
515	Jeronimo w/o Millennium	8000	35	4	62.8	< RdHW	36	77
513	Marine e/o Research	24000	35	4	67.5	34	73	158
512	Marine e/o Sand Canyon	26000	35	4	67.9	36	78	168
514	Marine w/o Millennium	27000	35	4	68	37	79	171
540	Millennium n/o Alton	34000	35	4	69	43	92	199
534	Millennium n/o Arts Village	7000	35	4	62.2	< RdHW	33	70
542	Millennium n/o Bake	34000	35	4	69	43	92	199
539	Millennium n/o Barranca	46000	35	4	70.4	53	115	247
532	Millennium n/o Bryan	10000	35	4	63.7	< RdHW	41	88
538	Millennium n/o Jeronimo	47000	35	4	70.5	54	116	251
537	Millennium n/o Marine	34000	35	4	69	43	92	199
541	Millennium n/o Rockfield	42000	35	4	70	50	108	232
535	Millennium n/o Trabuco	21000	35	4	67	32	68	146
533	Millennium s/o Bryan	9000	35	4	63.3	< RdHW	39	83
536	Millennium s/o Trabuco	29000	35	4	68.4	39	84	182
485	Portola e/o W. Central Park	29000	35	4	68.4	39	84	182
511	Quantum e/o Research	7000	35	4	62.2	< RdHW	33	70
520	Research n/o Bryan	10000	35	4	63.7	< RdHW	41	88
519	Research n/o Irvine	14000	35	4	65.2	< RdHW	52	111
523	Research n/o Marine	17000	35	4	66	27	58	126
521	Research n/o Trabuco	22000	35	4	67.2	33	70	151
524	Research s/o Marine	11000	35	4	64.1	< RdHW	44	94
522	Research s/o Trabuco	11000	35	4	64.1	< RdHW	44	94
355	Rockfield w/o Bake	18000	40	4	68	37	79	171
518	Sand Canyon s/o Irvine	31000	60	4	75.4	115	247	532
508	Trabuco e/o E. Central Park	27000	35	4	68	37	79	171
506	Trabuco e/o Millennium	27000	35	2	68	37	79	171
503	Trabuco e/o Research	33000	35	4	68.9	42	91	196
501	Trabuco e/o Sand Canyon	47000	35	4	70.5	54	116	251
504	Trabuco e/o W. Central Park	30000	35	2	68.5	40	86	184
507	Trabuco w/o E. Central Park	29000	35	4	68.4	39	84	182
505	Trabuco w/o Millennium	27000	35	2	68	37	79	171
527	W. Central Park n/o Bryan	11000	35	4	64.1	< RdHW	44	94
526	W. Central Park n/o Irvine	10000	35	4	63.7	< RdHW	41	88
528	W. Central Park n/o Trabuco	11000	35	4	64.1	< RdHW	44	94
525	W. Central Park s/o Portola	12000	35	4	64.5	< RdHW	46	100
530	W. Central Park s/o Quantum	11000	35	4	64.1	< RdHW	44	94
529	W. Central Park s/o Trabuco	8000	35	4	62.8	< RdHW	36	77
496	W. Culture n/o Trabuco	9000	35	4	63.3	< RdHW	39	83
489	Irvine e/o W. Central Park	40000	35	4	69.8	48	104	225

EIR No. 573

County of Orange

Table 8.3-6

SOURCE: LSA Associates, Inc., 9/99

Traffic Noise Model Results
Existing plus ETRPA Nonaviation
Plan - New Segments

CCTM2.8 MCAS El Toro		Airport System Master Plan - ASMP 1997							No Project Alternative 2020 - Existing Segments							
		ADT	Spd. (mph)	# of Lanes	CNEL at 50ft.C.R. (dBA)	70 dB CNEL (FL)	65 dB CNEL (FL)	60 dB CNEL (FL)	ADT	Spd. (mph)	# of Lanes	CNEL at 50ft.C.R. (dBA)	70 dB CNEL (FL)	65 dB CNEL (FL)	60 dB CNEL (FL)	CNEL Increase dBA
28	1st w/o Tustin	18500	35	4	66.9	31	67	144	27000	35	6	68.6	40	87	187	1.7
12	4th w/o Tustin	20200	40	6	68.7	41	88	190	29000	40	6	70.6	55	118	254	1.9
111	Alton e/o Laguna Canyon	14700	55	4	70.7	56	120	258	22000	55	4	73.4	84	182	391	2.7
100	Alton e/o Red Hill	14700	50	4	69.7	48	103	222	25000	50	6	72.8	77	166	357	3.1
110	Alton e/o Sand Canyon	16900	55	4	71.3	61	132	283	27000	55	4	74.3	97	208	449	3
395	Alton n/o Jeronimo	22700	55	6	72.6	75	161	346	35000	55	6	75.4	115	247	532	2.8
396	Alton n/o Muirlands	32500	55	6	74.2	95	205	442	52000	55	6	77.1	149	320	690	2.9
394	Alton s/o Irvine	12100	55	6	69.9	49	106	229	30000	55	6	74.8	104	225	485	4.9
390	Alton s/o Portola	3800	55	6	64.8	< RdHW	48	104	29000	55	6	74.6	101	218	470	9.8
101	Alton w/o Jamboree	16900	50	4	70.3	52	113	243	29000	50	6	73.4	84	182	391	3.1
406	Bake s/o I-5	4500	50	6	64.6	< RdHW	47	101	18000	50	6	71.3	61	132	283	6.7
136	Baker e/o SR-55	15100	40	4	67.4	34	72	156	30000	40	4	70.8	57	122	262	3.4
96	Barranca e/o Irvine Center	16100	55	4	71.1	59	128	275	29000	55	4	74.6	101	218	470	3.5
94	Barranca e/o Laguna Canyon	3200	55	4	64.1	< RdHW	44	94	15000	55	4	71.7	65	140	301	7.6
93	Barranca e/o Sand Canyon	4400	55	4	65.5	25	54	116	16000	55	4	72	68	146	315	6.5
98	Barranca e/o Technology	14800	50	4	69.7	48	103	222	27000	50	4	73.1	80	173	374	3.4
347	Barranca w/o Alton	13300	50	4	69.3	45	97	208	26000	50	4	72.9	78	168	362	3.6
95	Barranca w/o Irvine Center	10900	55	4	69.4	46	98	212	19000	55	4	72.8	77	166	357	3.4
84	Barranca w/o Jamboree	28900	50	6	72.6	75	161	346	49000	50	6	75.7	120	258	557	3.1
97	Barranca w/o Technology	18400	55	4	71.7	65	140	301	33000	55	4	75.2	111	239	516	3.5
201	Birch s/o South Bristol	5900	40	2	63.3	18	39	83	9000	40	2	65.5	25	54	116	2.2
39	Bryan e/o Culver	7800	45	4	65.8	26	57	122	12000	45	4	68.3	39	83	179	2.5
38	Bryan e/o Jamboree	11400	45	4	67.5	34	73	158	26000	45	4	71.6	64	138	297	4.1
40	Bryan w/o Jeffrey	5200	50	4	65.2	< RdHW	52	111	10000	50	4	68.8	42	90	193	3.6
139	Campus e/o Jamboree	19100	45	4	69.7	48	103	222	30000	45	4	72.2	70	151	325	2.5
238	Carlson s/o Michelson	2300	35	6	57.8	< RdHW	< RdHW	< RdHW	8000	35	6	63.4	< RdHW	39	84	5.6
323	Commercentre w/o Bake	500	45	4	53.9	< RdHW	< RdHW	< RdHW	3000	45	4	62.2	< RdHW	33	70	8.3
249	Culver n/o Bryan	16800	45	3	69.2	44	95	205	42000	45	6	73.7	88	190	410	4.5
250	Culver n/o Trabuco/I-5	27300	45	3	71.3	61	132	283	62000	45	6	75.4	115	247	532	4.1
152	Del Mar e/o Newport (NB)	9600	30	2	62.4	16	34	72	16000	30	2	64.4	21	46	98	2
82	Dyer e/o SR-55	43300	40	6	72	68	146	315	79000	40	6	75	108	232	500	3
81	Dyer w/o Hotel Terrace	32500	40	6	70.8	57	122	262	79000	40	6	75	108	232	500	4.2
64	Edinger e/o Jamboree	20600	50	6	71.2	60	130	279	37000	50	6	74.5	100	215	463	3.3
62	Edinger e/o Red Hill	17900	55	6	71.6	64	138	297	57000	55	6	77.5	158	341	734	5.9
61	Edinger w/o Red Hill	28900	40	4	70.2	52	111	239	62000	40	6	73.9	91	196	422	3.7
60	Edinger w/o SR-55	32600	45	4	72	68	146	315	59000	45	6	75.2	111	239	516	3.2
41	El Camino Real n/o Main	6400	35	4	62.3	< RdHW	33	71	10000	35	4	64.3	< RdHW	45	97	2
42	El Camino Real w/o Newport	8900	35	4	63.7	< RdHW	41	88	18000	35	4	66.9	31	67	144	3.2
431	El Toro e/o Marguerite	11700	55	2	69.7	48	103	222	21000	55	2	73.2	82	176	379	3.5
432	El Toro e/o Santa Margarita	8500	55	6	68.3	39	83	179	24000	55	6	73.8	90	193	416	5.5
430	El Toro n/o Glenn Ranch	11100	55	2	69.5	46	100	215	16000	55	2	72	68	146	315	2.5
436	El Toro n/o Jeronimo	33800	50	6	73.3	83	179	385	52000	50	6	76	126	271	583	2.7
437	El Toro n/o Muirlands	36300	50	6	73.6	87	187	403	58000	50	6	76.4	134	288	620	2.8
438	El Toro n/o Rockfield	42200	40	6	71.9	67	144	311	64000	40	6	74.1	94	202	435	2.2
440	El Toro s/o Avd Cartota	34200	35	6	69.5	46	100	215	50000	35	6	71.3	61	132	283	1.8
435	El Toro s/o Trabuco	31500	50	6	73	79	171	368	50000	50	6	75.8	122	262	565	2.8
559	FTC s/o Alton	21000	65	6	74.1	94	202	435	91000	65	6	81.7	301	649	1398	7.6
560	FTC s/o Lake Forest	18000	65	6	73.5	86	184	397	78000	65	6	81	271	583	1256	7.5
558	FTC s/o Portola	23000	65	6	74.5	100	215	463	94000	65	6	81.8	306	659	1420	7.3
561	FTC s/o Santa Margarita	20000	65	6	73.9	91	196	422	88000	65	6	81.5	292	629	1356	7.6
308	Glenn Ranch n/o Portola	10600	55	4	69.3	45	97	208	27000	55	4	74.3	97	208	449	5

EIR No. 573

County of Orange

Table 8.3-7

SOURCE: LSA Associates, Inc., 9/99

Traffic Noise Model Results
Year 2020 No Project vs. Existing No Project Conditions -
Existing Segments with 1.5 dB or Higher Traffic Noise Increase

CCTM2.8 MCAS El Toro		Airport System Master Plan - ASMP 1997							No Project Alternative 2020 - Existing Segments							CNEL Increase dBA
		ADT	Spd. (mph)	# of Lanes	CNEL at 50ft.C.R. (dBA)	70 dB CNEL (FL)	65 dB CNEL (FL)	60 dB CNEL (FL)	ADT	Spd. (mph)	# of Lanes	CNEL at 50ft.C.R. (dBA)	70 dB CNEL (FL)	65 dB CNEL (FL)	60 dB CNEL (FL)	
309	Glenn Ranch w/o El Toro	4100	55	4	65.2	< RdHW	52	111	9000	55	4	69.5	46	100	215	4.3
454	Glenwood w/o Moulton	8800	50	4	67.5	34	73	158	13000	50	4	69.9	49	106	229	2.4
170	Grand s/o Edinger	26900	45	6	71.2	60	130	279	46000	45	6	74.1	94	202	435	2.9
244	Harvard s/o Main	17600	50	4	70.5	54	116	251	25000	50	4	72.8	77	166	357	2.3
246	Harvard s/o University	12100	45	4	67.7	35	76	163	18000	45	4	70	50	108	232	2.3
159	Holt s/o Irvine	6900	40	4	64	< RdHW	43	92	13000	40	4	67.1	32	69	149	3.1
160	Holt s/o Irvine	6000	30	4	60.3	< RdHW	24	52	9000	30	4	61.9	< RdHW	31	67	1.6
66	Irvine Center e/o Culver	22000	55	6	72.5	73	158	341	49000	55	6	76.9	144	311	669	4.4
69	Irvine Center e/o Sand Cyn	12800	55	4	70.1	51	109	236	40000	55	6	76	126	271	583	5.9
71	Irvine Center s/o Alton	12700	55	6	70.1	51	109	236	34000	55	6	75.3	113	243	524	5.2
72	Irvine Center s/o Alton	25600	55	6	73.1	80	173	374	47000	55	6	76.7	140	301	649	3.6
371	Irvine Center s/o Bake	30400	60	4	74.8	104	225	485	66000	60	6	79.3	208	449	967	4.5
370	Irvine Center s/o I-405	27900	60	4	74.5	100	215	463	62000	60	6	79	199	429	924	4.5
70	Irvine Center w/o Barranca	13300	55	6	70.3	52	113	243	42000	55	6	76.2	130	279	601	5.9
65	Irvine Center w/o Culver	21600	55	6	72.4	72	156	335	43000	55	6	76.3	132	283	610	3.9
67	Irvine Center w/o Jeffrey	18300	55	6	71.7	65	140	301	46000	55	6	76.6	138	297	639	4.9
68	Irvine Center w/o Sand Cyn	16900	55	4	71.3	61	132	283	40000	55	6	76	126	271	583	4.7
23	Irvine e/o Culver	23000	50	6	71.6	64	138	297	42000	50	6	75	108	232	500	3.4
27	Irvine e/o ETC East Leg	19700	40	4	68.9	42	91	196	41000	40	4	72.1	69	149	320	3.2
21	Irvine e/o Jamboree	22900	50	6	71.6	64	138	297	40000	50	6	74.8	104	225	485	3.2
16	Irvine e/o Prospect	28000	40	4	70.1	51	109	236	41000	40	4	72.1	69	149	320	2
26	Irvine e/o Sand Canyon	19700	65	4	73.9	91	196	422	48000	65	4	78.9	196	422	910	5
15	Irvine e/o Yorba	29300	35	6	68.9	42	91	196	47000	35	6	71.1	59	128	275	2.2
325	Irvine w/o Alton	18900	65	4	73.7	88	190	410	32000	65	4	77.1	149	320	690	3.4
18	Irvine w/o Browning	24200	45	4	70.7	56	120	258	44000	45	6	73.9	91	196	422	3.2
20	Irvine w/o Jamboree	25500	50	6	72.1	69	149	320	44000	50	6	75.2	111	239	516	3.1
24	Irvine w/o Jeffrey	22500	50	5	71.5	63	136	292	41000	50	5	74.9	106	229	492	3.4
17	Irvine w/o Red Hill	29700	40	4	70.4	53	115	247	47000	40	6	72.7	76	163	351	2.3
25	Irvine w/o Sand Canyon	17400	65	4	73.3	83	179	385	42000	65	4	78.3	179	385	830	5
19	Irvine w/o Tustin Ranch	23800	45	6	70.7	56	120	258	39000	45	6	73.4	84	182	391	2.7
230	Jamboree s/o Alton	30700	50	8	72.9	78	168	362	73000	50	8	77.4	156	335	723	4.5
229	Jamboree s/o Barranca	34000	50	8	73.3	83	179	385	88000	50	8	78.2	176	379	817	4.9
223	Jamboree s/o Bryan	26200	45	5	71.1	59	128	275	47000	45	6	74.2	95	205	442	3.1
227	Jamboree s/o Edinger	41400	50	8	74.2	95	205	442	104000	50	8	79	199	429	924	4.8
224	Jamboree s/o El Camino Real	33400	45	8	72.1	69	149	320	51000	45	8	74.5	100	215	463	2.4
222	Jamboree s/o Irvine	22900	45	5	70.5	54	116	251	34000	45	6	72.8	77	166	357	2.3
231	Jamboree s/o Main	34800	50	8	73.4	84	182	391	69000	50	8	77.2	151	325	701	3.8
221	Jamboree s/o Portola	22000	50	4	71.5	63	136	292	42000	50	6	75	108	232	500	3.5
220	Jamboree s/o Tustin Ranch	19000	55	4	71.8	66	142	306	47000	55	4	76.7	140	301	649	4.9
228	Jamboree s/o Edinger	39800	50	8	74	92	199	429	107000	50	8	79.1	202	435	938	5.1
279	Jeffrey s/o Bryan	21200	60	6	73.3	83	179	385	34000	60	6	76.4	134	288	620	3.1
281	Jeffrey s/o I-5	29800	60	6	74.7	103	222	477	59000	60	6	78.8	193	416	896	4.1
280	Jeffrey s/o Trabuco	24900	60	6	74	92	199	429	36000	60	6	76.6	138	297	639	2.6
282	Jeffrey s/o Walnut/I-5	32200	55	5	74.1	94	202	435	48000	55	6	76.8	142	306	639	2.7
305	Laguna Canyon s/o Alton	1500	45	4	58.7	< RdHW	< RdHW	41	7000	45	4	65.9	27	57	124	7.2
306	Laguna Canyon s/o Alton	3100	45	2	61.8	14	31	66	12000	45	2	68.3	39	83	179	6.5
456	Laguna Hills e/o Moulton	15000	50	4	69.8	48	104	225	23000	50	4	72.4	72	156	335	2.6
458	Laguna Hills w/o Aliso Crk	3100	50	6	62.9	< RdHW	36	78	29000	50	6	73.4	84	182	391	10.5
457	Laguna Hills w/o Moulton	16500	50	6	70.2	52	111	239	50000	50	6	75.8	122	262	565	5.6
413	Lake Forest s/o Trabuco	26700	50	4	72.3	71	153	330	44000	50	4	75.2	111	239	516	2.9
412	Lake Forest s/o Rancho	13500	50	4	69.3	45	97	208	37000	50	4	74.5	100	215	463	5.2
445	Los Alisos e/o Marguerite	6900	50	4	66.4	29	62	134	16000	50	4	70.8	57	122	262	4.4
446	Los Alisos s/o S. Margarita	7500	50	4	66.8	31	66	142	11000	50	4	69.2	44	93	205	2.4
120	Main e/o MacArthur	33200	50	6	73.2	82	176	379	51000	50	6	75.9	124	266	574	2.7
121	Main w/o Jamboree	24000	50	6	71.8	66	142	306	37000	50	6	74.5	100	215	463	2.7

EIR No. 573

County of Orange

Table 8.3-7 (Cont.)

SOURCE: LSA Associates, Inc., 9/99

Traffic Noise Model Results
Year 2020 No Project vs. Existing No Project Conditions -
Existing Segments with 1.5 dB or Higher Traffic Noise Increase

CCTM2.8 MCAS El Toro		Airport System Master Plan - ASMP 1997						No Project Alternative 2020 - Existing Segments						CNEL Increase dBA		
		ADT	Spd. (mph)	# of Lanes	CNEL at 50ft.C.R. (dBA)	70 dB CNEL (FL)	65 dB CNEL (FL)	60 dB CNEL (FL)	ADT	Spd. (mph)	# of Lanes	CNEL at 50ft.C.R. (dBA)	70 dB CNEL (FL)		65 dB CNEL (FL)	60 dB CNEL (FL)
119	Main w/o MacArthur	26500	50	4	72.3	71	153	330	46000	50	6	75.4	115	247	532	3.1
118	Main w/o Red Hill	24600	50	4	71.9	67	144	311	41000	50	6	74.9	106	229	492	3
474	Marguerite n/o S. Margarita	9200	45	4	66.5	29	63	136	14000	45	4	68.9	42	91	196	2.4
473	Marguerite n/o El Toro	10200	45	4	67	32	68	146	19000	45	4	70.3	52	113	243	3.3
131	Michelson w/o University	4700	35	2	60.9	12	27	57	9000	35	2	63.9	20	42	91	3
377	Moulton n/o Alicia	24400	55	6	72.9	78	168	362	46000	55	6	76.6	138	297	639	3.7
374	Moulton n/o El Toro	37600	45	6	72.7	76	163	351	69000	45	6	75.9	124	266	574	3.2
378	Moulton n/o La Paz	20700	45	6	70.1	51	109	236	40000	45	6	73.5	86	184	397	3.4
375	Moulton n/o El Toro	35600	45	6	72.4	72	156	335	76000	45	6	76.3	132	283	610	3.9
376	Moulton n/o Glenwood	26800	55	6	73.3	83	179	385	63000	55	6	78	171	368	792	4.7
379	Moulton n/o La Paz	16900	45	6	69.2	44	95	205	32000	45	6	72.5	73	158	341	3.3
372	Moulton n/o Lake Forest	33900	45	6	72.2	70	151	325	61000	45	6	75.3	113	243	524	3.1
373	Moulton n/o Ridge Route	33700	45	6	72.2	70	151	325	63000	45	6	75.5	116	251	540	3.3
348	Muirlands e/o Akon	13200	50	4	69.2	44	95	205	19000	50	4	71.6	64	138	297	2.4
166	Newport n/o Walnut	12100	35	4	65	< RdHW	50	108	25000	35	4	68.3	39	83	179	3.3
316	Portola n/o El Toro	20200	55	6	72.1	69	149	320	50000	55	6	77	146	315	680	4.9
311	Portola w/o Bake	11300	35	6	69.6	47	101	218	20000	55	6	73	79	171	368	3.4
5	Portola w/o Jamboree	600	45	4	54.7	< RdHW	< RdHW	< RdHW	8000	45	4	66.5	29	63	136	11.8
322	Rancho e/o Lake Forest	3300	50	4	63.2	< RdHW	38	82	41000	50	4	74.9	106	229	492	11.7
182	Red Hill n/o MacArthur	31500	50	6	73	79	171	368	47000	50	6	75.5	116	251	540	2.5
427	Ridge Route e/o Moulton	7600	45	2	65.7	26	56	120	11000	45	2	67.9	36	78	188	2.2
299	Sand Canyon n/o Alton	16600	55	6	71.2	60	130	279	34000	55	6	75.3	113	243	524	4.1
300	Sand Canyon n/o I-405	18600	55	4	71.7	65	140	301	36000	55	4	75.5	116	251	540	3.8
295	Sand Canyon n/o I-5	25200	60	6	74	92	199	429	44000	60	6	77.5	158	341	734	3.5
293	Sand Canyon n/o Irvine	12600	60	4	71	58	126	271	18000	60	4	73.6	87	187	403	2.6
294	Sand Canyon n/o Trabuco	17600	60	4	72.5	73	158	341	33000	60	4	76.3	132	283	610	3.8
297	Sand Cyn n/o Irvine Center	21600	50	6	71.4	62	134	288	39000	50	6	74.7	103	222	477	3.3
298	Sand Cyn e/o Irvine Center	16700	55	4	71.3	61	132	283	34000	55	6	75.3	113	243	524	4
187	Santa Ana n/o Bristol	10400	45	4	67.1	32	69	149	15000	45	4	69.2	44	95	205	2.1
317	Santa Margarita n/o El Toro	28800	50	6	72.6	75	161	346	50000	50	6	75.8	122	262	565	3.2
587	SJHTC n/o Laguna Canyon	53000	65	6	78.2	176	379	817	108000	65	6	82.4	335	723	1557	4.2
589	SJHTC n/o Aliso Creek	47000	65	6	77.6	161	346	745	89000	65	6	81.6	297	639	1377	4
588	SJHTC n/o El Toro	47000	65	6	77.6	161	346	745	99000	65	6	82	315	680	1464	4.4
151	South Bristol w/o Jamboree	17100	45	3	69.2	44	95	205	26000	45	3	71.6	64	138	297	2.4
602	SR-133 n/o I-405	20000	65	6	73.9	91	196	422	42000	65	6	78.3	179	385	830	4.4
601	SR-133 n/o I-5	20000	65	6	73.9	91	196	422	47000	65	6	78.8	193	416	896	4.9
597	SR-55 n/o SR-73	128000	65	8	82	315	680	1464	181000	65	8	84.7	477	1029	2216	2.7
598	SR-73 n/o SR-55	87000	65	6	80.3	243	524	1128	136000	65	6	83.4	391	843	1815	3.1
600	SR-73 n/o Campus/Irvine	44000	65	6	77.3	153	330	712	66000	65	6	80.3	243	524	1128	3
599	SR-73 n/o SR-55	79000	65	6	79.9	229	492	1061	116000	65	6	82.7	351	757	1630	2.8
48	Trabuco w/o Jeffrey	4100	55	4	65.2	< RdHW	52	111	14000	55	4	71.4	62	134	288	6.2
49	Trabuco w/o Sand Canyon	3900	35	2	60.1	< RdHW	24	51	21000	35	2	67.6	35	75	161	7.5
207	Tustin Ranch n/o Bryan	16600	45	6	69.1	44	94	202	28000	45	6	71.9	67	144	311	2.8
209	Tustin Ranch n/o I-5	29600	45	6	71.6	64	138	297	43000	45	6	73.8	90	193	416	2.2
206	Tustin Ranch n/o Irvine	15200	45	6	68.7	41	88	190	34000	45	6	72.8	77	166	357	4.1
205	Tustin Ranch n/o Portola	2700	50	6	62.3	< RdHW	< RdHW	71	17000	50	6	71.1	59	128	275	8.8
208	Tustin Ranch n/o Bryan	20300	45	6	70	50	108	232	29000	45	6	72.1	69	149	320	2.1
210	Tustin Ranch n/o I-5	18400	45	6	69.6	47	101	218	43000	45	6	73.8	90	193	416	4.2
169	Valencia w/o Red Hill	3700	35	2	59.9	< RdHW	23	49	15000	35	4	66.1	27	59	128	6.2
218	Von Karman n/o Birch	13500	40	4	66.9	31	67	144	20000	40	4	69	43	92	199	2.1
217	Von Karman n/o Campus	17100	50	4	70.4	53	115	247	25000	50	4	72.8	77	166	357	2.4
215	Von Karman n/o Main	16300	50	6	70.1	51	109	236	32000	50	6	73.8	90	193	416	3.7
216	Von Karman n/o Michelson	21500	50	6	71.4	62	134	288	33000	50	6	74	92	199	429	2.6
214	Von Karman n/o Baccara	16400	50	6	70.2	52	111	239	36000	50	6	74.4	98	212	456	4.2
54	Walnut w/o Jamboree	10000	40	4	65.6	25	55	118	15000	40	4	67.8	36	77	166	2.2
79	Warner w/o Culver	3100	40	4	60.6	< RdHW	25	55	18000	40	4	68.6	40	87	187	8
78	Warner w/o Harvard	1400	40	4	57.1	< RdHW	< RdHW	32	16000	40	6	68	37	79	171	10.9
75	Warner w/o Red Hill	14800	40	6	67.3	< RdHW	71	153	40000	40	6	72	68	146	315	4.7
267	West Yale Loop n/o Warner	7200	45	4	65.5	25	54	116	11000	45	4	67.9	36	78	168	2.4
155	Yorba n/o Irvine	6700	35	4	62.5	< RdHW	34	73	14000	35	4	65.8	26	57	122	3.3

EIR No. 573

County of Orange

Table 8.3-7 (Cont.)

SOURCE: LSA Associates, Inc., 9/99

Traffic Noise Model Results
Year 2020 No Project vs. Existing No Project Conditions -
Existing Segments with 1.5 dB or Higher Traffic Noise Increase

higher noise increase over their corresponding existing no project level. Although these noise increases would be considered significant, they are due to area growth and planned development in the region. Table 8.3-8 shows the noise levels along new road links that would be constructed under the year 2020 no project scenario. Many of these new road links would have the 65 dB CNEL affecting sensitive uses adjacent to the roads.

Table 8.3-9 shows the road links that would have a potential noise increase greater than 1.5 dB under the 2020 ETRPA Nonaviation Plan Alternative over the existing plus committed (2020) scenario. Although a total of 58 road links with 2020 ETRPA Nonaviation Plan Alternative would have a 1.5 to 3.0 dB in noise level increase over their corresponding existing plus committed scenarios and a total of 111 road links would have a 3 dB or more noise level increase over their corresponding existing plus committed scenario, in order to determine the impacts associated with the 2020 ETRPA Nonaviation Plan Alternative, a comparison with the year 2020 existing plus committed scenario was also conducted. A total of 60 road links under the 2020 ETRPA Nonaviation Plan Alternative would have an increase of up to 3.0 dB in noise levels over their corresponding existing plus committed (2020) scenario. Only two road links would have noise level increases of more than 3 dB. Along Commercentre Drive west of Bake Parkway, there would be a 3.7 dB increase. Along Trabuco Road east of Sand Canyon Road, there would be a 10.6 dB increase with the implementation of the 2020 ETRPA Nonaviation Plan Alternative. These noise level increases would be considered significant with the 2020 ETRPA Nonaviation Plan Alternative.

However, no existing sensitive use along these segments of the two road links would have more than 3 dB noise increases. Any future sensitive uses proposed along these two road links would require mitigation or rejection. In addition, a total of 41 road links would have lower traffic noise with ETRPA Nonaviation Plan Alternative. A total of 91 road links would have no measurable change in traffic noise in year 2020 with implementation of the ETRPA Nonaviation Plan Alternative.

Table 8.3-10 summarizes the number of road links that would have noise level increase over their corresponding existing levels for the existing plus ETRPA Nonaviation Plan Alternative, 2020 No Project, and 2020 ETRPA Nonaviation Plan Alternative. Table 8.3-11 summarizes the number of road links that would have noise level increase with 2020 ETRPA Nonaviation Plan Alternative over their corresponding 2020 No Project levels.

Comparison of Alternative Impacts to Proposed Project Impacts

This alternative would not have any of the aviation noise impacts of the project at the MCAS El Toro site.

CCTM2.8 2020 MCAS El Toro NO PROJECT - New Segments		CNEL RESULTS						
		ADT	Spd. (mph)	# of Lanes	CNEL at 50ft.C.R. (dBA)	70 dB CNEL (Ft.)	65 dB CNEL (Ft.)	60 dB CNEL (Ft.)
392	Alton n/o Commercentre	35000	55	6	74.8	104	225	485
393	Alton n/o Irvine	35000	55	6	74.8	104	225	485
391	Alton n/o Rancho	28000	55	6	73.9	91	196	422
92	Barranca w/o Sand Canyon	18000	35	4	66.3	28	61	132
200	Birch s/o North Bristol	10000	40	2	65.4	25	53	115
248	Culver n/o Irvine	29000	45	6	71.5	63	136	292
511	East Access n/o Irvine	0	35	4	0	0	0	0
509	East Access s/o Irvine	0	35	4	0	0	0	0
63	Edinger w/o Jamboree	38000	55	6	75.2	111	239	516
512	ETC Connector (N & S)	0	35	4	0	0	0	0
513	ETC Connector (N)	0	35	4	0	0	0	0
552	ETC East Leg n/o Irvine	58000	65	6	79.1	202	435	938
550	ETC East Leg n/o Jeffrey	96000	65	6	81.3	283	610	1315
553	ETC East Leg s/o Irvine	48000	65	6	78.3	179	385	830
551	ETC East Leg s/o Jeffrey	96000	65	6	81.3	283	610	1315
555	ETC West Leg n/o Irvine	69000	65	6	79.9	229	492	1061
554	ETC West Leg n/o Portola	65000	65	6	79.6	218	470	1013
556	ETC West Leg s/o Irvine	60000	65	6	79.3	208	449	967
557	FTC s/o ETC East Leg	79000	65	6	80.4	247	532	1145
500	Irvine e/o Perimeter Rd	47000	35	4	70.5	54	116	251
22	Irvine w/o Culver	46000	50	6	74.8	104	225	485
236	Jamboree n/o California	38000	50	6	74	92	199	429
304	Laguna Canyon n/o Barranca	1000	45	4	56.9	< RdHW	< RdHW	31
385	Laguna Canyon s/o Bake	46000	55	4	76	126	271	583
386	Laguna Cyn n/o Aliso Creek	30000	55	4	74.2	95	205	442
384	Laguna Cyn s/o Lakk Forest	46000	35	4	70.4	53	115	247
303	Laguna Cyn s/o Technology	3000	35	4	58.5	< RdHW	< RdHW	40
502	Marine Way e/o Sand Canyon	3000	35	4	58.5	< RdHW	< RdHW	40
167	Newport n/o Edinger	33000	35	6	68.9	42	91	196
168	Newport s/o Edinger	15000	35	6	65.5	< RdHW	54	116
302	Oak Canyon e/o Sand Canyon	6000	35	4	61.5	< RdHW	29	63
506	Perimeter Rd e/o Air Cargo	0	35	2	0	0	0	0
504	Perimeter Rd n/o Marine Way	0	35	2	0	0	0	0
507	Perimeter Rd s/o Astor	0	35	2	0	0	0	0
503	Perimeter Rd s/o Irvine	0	35	2	0	0	0	0
505	Perimeter Rd s/o Marine Way	0	35	2	0	0	0	0
8	Portola e/o Culver	21000	50	2	71.4	62	134	288
6	Portola e/o Jamboree	25000	50	6	72.2	70	151	325
315	Portola n/o Rancho	27000	65	4	75.8	122	262	565
7	Portola w/o Culver	29000	50	2	72.8	77	166	357
9	Portola w/o Jeffrey	14000	35	2	65.2	24	52	111
320	Rancho e/o Alton	10000	55	4	69.4	46	98	212
321	Rancho e/o Bake	36000	55	4	74.9	106	229	492
355	Rockfield e/o Alton	0	40	4	0	0	0	0
301	Sand Canyon s/o I-405	3000	50	4	63	< RdHW	37	79
73	Technology e/o Oak Cyn	2000	35	4	56.7	< RdHW	< RdHW	30
501	Trabuco e/o Sand Canyon	2000	35	4	56.7	< RdHW	< RdHW	30
211	Tustin Ranch n/o Edinger	41000	45	6	73	79	171	368
212	Tustin Ranch s/o Edinger	26000	35	6	67.9	36	78	168
213	Tustin Ranch s/o Warner	42000	35	6	70	50	108	232
76	Warner e/o Red Hill	52000	50	6	75.4	115	247	532
77	Warner w/o Jamboree	24000	50	6	72	68	146	315
510	West Access n/o Irvine	0	35	4	0	0	0	0
508	West Access s/o Irvine	0	35	4	0	0	0	0

EIR No. 573

County of Orange

Table 8.3-8

SOURCE: LSA Associates, Inc., 9/99

**Traffic Noise Model Results
Year 2020 No Project Condition
- New Segments**

ID #	Existing Segment Names	No. Project Alternative 2020 - All Segments				No. Project Alternative 2020 - All Segments			
		ADT (mph)	CNREL at SR-C.R. (DB)	70-45 CNREL (DB)	60-45 CNREL (DB)	ADT (mph)	CNREL at SR-C.R. (DB)	70-45 CNREL (DB)	60-45 CNREL (DB)
193	Alton w/o Incline	53	65.4	104	48.5				
200	Bloch w/o North Bristol	40	75	108	590				
71	Dyer w/o Road Turnback	6	76.3	126	278				
80	Irvine Center w/o Burnbank	6	76	126	271				
69	Irvine Center w/o Road C'n	6	76.5	127	283				
284	Small Canyon w/o Tiburon	40	71.5	71	168				
347	Burnbank w/o Alton	6	78.2	111	68				
97	Burnbank w/o Technology	6	78.2	111	229				
98	Burnbank w/o Technology	6	78.2	111	316				
94	Burnbank w/o Technology	6	78.2	111	374				
84	Burnbank w/o Laguna Canyon	6	78.2	111	401				
91	Burnbank w/o Small Canyon	6	78.2	111	406				
96	Burnbank w/o Irvine Center	6	78.2	111	412				
370	Irvine Center w/o I-405	6	78.2	111	429				
71	Irvine Center w/o Alton	6	78.3	113	233				
110	Alton w/o Incline	6	78.3	113	324				
394	Alton w/o Small Canyon	6	78.4	104	225				
412	Laurel Forest w/o Rancho	6	78.4	104	249				
72	Irvine Center w/o Alton	6	78.4	104	255				
211	Jeffrey w/o I-5	6	78.8	101	649				
435	El Toro w/o Tiburon	6	78.8	101	896				
66	Irvine Center w/o Culver	6	79.8	122	262				
49000	Burnbank w/o Tiburon	6	79.9	144	311				
101	Alton w/o Burnbank	6	79.9	144	328				
119	Alton w/o Main	6	79.9	144	331				
120	Main w/o Main	6	79.9	144	331				
279	Jeffrey w/o Irvine	6	79.9	144	331				
555	ETC West Leg w/o Irvine	6	79.9	144	331				
587	ETC West Leg w/o Laguna Canyon	6	79.9	144	331				
65	Irvine Center w/o Culver	6	82.4	132	283				
48	Irvine Center w/o Small Canyon	6	82.4	132	283				
210	Dyer w/o SR-55	6	84.5	129	106				
121	Main w/o Burnbank	6	84.5	129	106				
122	Tustin Ranch w/o I-5	6	84.5	129	106				
215	Van Korman w/o Main	6	84.5	129	106				
436	El Toro w/o Jamboree	6	84.5	129	106				
554	ETC West Leg w/o Potrero	6	84.5	129	106				
556	ETC West Leg w/o Irvine	6	84.5	129	106				
609	SR-57 w/o Camino Arroyo	6	84.5	129	106				
5	Potrero w/o Jamboree	6	84.5	129	106				
12	4th w/o Tustin	6	84.5	129	106				
13	Irvine w/o Yorba	6	84.5	129	106				
16	Irvine w/o Prospect	6	84.5	129	106				
17	Irvine w/o Road Hill	6	84.5	129	106				
18	Irvine w/o Browning	6	84.5	129	106				
19	Irvine w/o Tustin Ranch	6	84.5	129	106				
20	Irvine w/o Jamboree	6	84.5	129	106				
28	Irvine w/o Tustin	6	84.5	129	106				
38	Bryn w/o Jamboree	6	84.5	129	106				
41	El Camino Real w/o Main	6	84.5	129	106				
42	El Camino Real w/o Newport	6	84.5	129	106				
60	Edinger w/o SR-55	6	84.5	129	106				
61	Edinger w/o Road Hill	6	84.5	129	106				
62	Edinger w/o Jamboree	6	84.5	129	106				
64	Edinger w/o Jamboree	6	84.5	129	106				
75	Warner w/o Road Hill	6	84.5	129	106				
77	Warner w/o Jamboree	6	84.5	129	106				
78	Warner w/o Harvard	6	84.5	129	106				
79	Warner w/o Culver	6	84.5	129	106				
100	Alton w/o Road Hill	6	84.5	129	106				
118	Main w/o Road Hill	6	84.5	129	106				
131	Mission w/o University	6	84.5	129	106				
130	Baker w/o SR-55	6	84.5	129	106				

Table 8.3-9
Traffic Noise Model Results
Year 2020 with ETRPA Nonavation Plan
vs. Year 2020 No Project - All Segments

County of Orange

EIR No. 573

SOURCE: LSA Associates, Inc., 9/89

ID #	CCTM1.8 MCAE El Type	No Project Alternative 2020 - All Segments					New Alternatives 2020 - All Segments					CNET Increase ABA	
		ADT	Spd. (mph)	# of Lanes	CNET at SRC.C.R. (dBA)	53 dB CNET (dBA)	ADT	Spd. (mph)	# of Lanes	CNET at SRC.C.R. (dBA)	53 dB CNET (dBA)		
11	Christina Segment Name												
15	Allen v/o Laguna Canyon	12000	55	4	74.4	84	162	391	78.8	79	122	262	
16	Alton v/o Hillside	31000	55	6	68.5	41	91	196	78.8	79	122	262	
169	Neversett v/o Edinger												
301	Brick v/o South Bristol	9000	40	2	68.5	25	34	116	68.5	25	34	116	
311	Thames Ranch v/o Warner	43000	55	4	78.8	90	108	235	78.8	90	108	235	
317	Von Kaman v/o Campes	25000	50	4	72.8	77	166	357	78.8	90	108	235	
321													
328	Jeffrey v/o Trabuco	34000	60	6	78.8	138	197	639	78.8	90	108	235	
296													
318	Rockfield v/o Alton	0	40	4	0	0	0	0	68.5	25	34	116	
319													
326	Alton v/o Hillside	52000	55	6	77.1	149	320	690	78.8	90	108	235	
410													
483													
484													
487													
488													
489													
490													
491													
492													
493													
494													
495													
496													
497													
498													
499													
500	Irwin v/o Portomac Rd	47000	35	4	78.5	34	116	251	78.5	34	116	251	
501													
502	Marina Way v/o Sand Canyon	3600	35	4	58.5	< 50dBNW	< 50dBNW	40	64.1	< 50dBNW	44	94	
503	Perimeter Rd v/o Irvine	0	35	2	0	0	0	0	78.4	72	156	335	
504	Perimeter Rd v/o Marina Way	0	35	2	0	0	0	0	71.2	60	130	279	
505	Perimeter Rd v/o Marina Way	0	35	2	0	0	0	0	78.6	55	118	254	
506	Perimeter Rd v/o Alt Crago	0	35	2	0	0	0	0	78.2	52	111	239	
507	Perimeter Rd v/o Astor	0	35	2	0	0	0	0	78.5	54	116	251	
508	West Access v/o Irvine	0	35	4	0	0	0	0	78.6	55	118	254	
509	East Access v/o Irvine	0	35	4	0	0	0	0	70.7	56	120	258	
510	West Access v/o Irvine	0	35	4	0	0	0	0	78.1	51	109	236	
511	East Access v/o Irvine	0	35	4	0	0	0	0	68.7	< 50dBNW	26	56	
512	ETC Connector (N & S)	0	35	4	0	0	0	0	63.1	< 50dBNW	33	70	
513	ETC Connector (N)	0	35	4	0	0	0	0	48	37	79	171	
514													
515													
516													
517													
518													
519													
520													
521													

EIR No. 573
Table 8.3-9 (Cont.)
Traffic Noise Model Results
Year 2020 with ETRPA Nonaviation Plan
vs. Year 2020 No Project - All Segments

County of Orange

SOURCE: LSA Associates, Inc., 9/99

CCTM3.8 MCAS El Toro		No Project Alternative 2020 - All Segments				CCTM3.8 MCAS El Toro		Non-aviation Alternative 2020 - All Segments				CNEL Increase dBA			
ID #	Existing Segment Names	ADT	Spd. (mph)	# of Lanes	CNEL at 500 ft. (dBA)	70 dB CNEL (FL)	65 dB CNEL (FL)	60 dB CNEL (FL)	ADT	Spd. (mph)	# of Lanes		CNEL at 500 ft. (dBA)	70 dB CNEL (FL)	65 dB CNEL (FL)
522															
523															
524															
525															
526															
527															
528															
529															
530															
531															
532															
533															
534															
535															
536															
537															
538															
539															
540															
541															
542															
543															
544															
545															
546															
547															
548															
603															
N 522	Research n/a Trabuco	10000	35	4	63.2	< RdHW	52	111							
N 523	Research n/a Irvine	15000	35	4	65.8	25	54	116							
N 524	Research n/a Marine	13000	35	4	64.9	< RdHW	49	106							
N 525	W. Central Park n/a Powells	10000	35	4	63.7	< RdHW	41	88							
N 526	W. Central Park n/a Irvine	13000	35	4	64.3	< RdHW	49	106							
N 527	W. Central Park n/a Bryan	9000	35	4	63.3	< RdHW	39	83							
N 528	W. Central Park n/a Trabuco	13000	35	4	64.9	< RdHW	49	106							
N 529	W. Central Park n/a Trabuco	10000	35	4	63.7	< RdHW	41	88							
N 530	W. Central Park n/a Quantico	11000	35	4	64.1	< RdHW	44	94							
N 531	Millennium n/a Irvine	23000	55	4	67.3	32	71	153							
N 532	Millennium n/a Bryan	20000	35	4	66.7	30	63	140							
N 533	Millennium n/a Bryan	17000	35	4	66	27	58	126							
N 534	Millennium n/a Arts Village	13000	35	4	64.9	< RdHW	49	106							
N 535	Millennium n/a Trabuco	24000	35	4	67.5	34	73	158							
N 536	Millennium n/a Trabuco	30000	55	4	68.5	40	86	184							
N 537	Millennium n/a Marine	14000	35	4	69	43	92	199							
N 538	Millennium n/a Bannock	44000	55	4	70.3	52	111	239							
N 539	Millennium n/a Bannock	44000	35	4	70.3	52	111	239							
N 540	Millennium n/a Altan	23000	35	4	68.9	42	91	196							
N 541	Millennium n/a Rockfield	44000	35	4	70.3	52	111	239							
N 542	Millennium n/a Beltr	34000	35	4	69.3	45	97	208							
N 543	E. Central Park n/a Irvine	4000	35	4	59.8	< RdHW	< RdHW	40							
N 544	E. Central Park n/a Irvine	10000	35	4	63.7	< RdHW	41	88							
N 545	E. Central Park n/a Trabuco	3000	35	4	58.5	< RdHW	< RdHW	40							
N 546	E. Central Park n/a Trabuco	3000	35	4	58.5	< RdHW	< RdHW	40							
N 547	E. Central Park n/a Astor	3000	35	4	58.5	< RdHW	< RdHW	40							
N 548	Altan n/a Trabuco	55000	35	4	71.1	59	128	275							
E 603	Laguna Cyn n/a I-405	45000	35	4	70.7	56	120	258							

EIR No. 573

County of Orange

Table 8.3-9 (Cont.)

SOURCE: LSA Associates, Inc., 9/99

Traffic Noise Model Results
Year 2020 with ETRPA Nonaviation Plan
vs. Year 2020 No Project - All Segments

Number of Existing Segments related to the Noise Level Increase

Scenarios	Existing No Project	Existing NonAviation Pla	2020 No Project	2020 NonAviation Plan
1.5<#<3dB	-	12	51	58
3 <#< 6dB	-	12	95	92
6 <#< 9dB	-	3	15	12
9 <#< 12dB	-	0	5	6
# > 12 dB	-	0	0	1

EIR No. 573

County of Orange

Table 8.3-10

SOURCE: LSA Associates, Inc., 9/99

**Traffic Noise Model Results Comparison
Number of Segments with Traffic Noise Increase
Over Existing No Project Condition**

Number of Segments related to the Noise Level Increase

Scenario	2020 NoPj vs 2020 NonAv
(-3) < # < 0dB	41
# = 0 dB	91
0 < # < 3dB	60
3 < # < 6dB	1
6 < # < 9dB	0
9 < # < 12dB	1
# > 12 dB	0

Comparison to Existing Conditions

A comparison of the impacts of the Existing plus ETRPA Nonaviation Plan Alternative and Existing plus Proposed Project is as follows.

Impacted Roadway Links

The following roadway links are impacted by both the Proposed Project and the ETRPA Nonaviation Plan Alternative with 1.5 dB or higher traffic level increases over the existing conditions:

- Irvine w/o Sand Canyon
- Irvine e/o Sand Canyon
- Irvine w/o Alton
- Irvine w/o Bake
- Jeffrey n/o Bryan
- Portola w/o Jamboree
- Sand Canyon n/o I-5
- Sand Canyon n/o Irvine Center
- Sand Canyon s/o Irvine Center
- Sand Canyon n/o Alton
- Sand Canyon n/o I-405
- Trabuco w/o Jeffrey
- Trabuco w/o Sand Canyon

The following roadway links are impacted by the ETRPA Nonaviation Plan Alternative only with 1.5 dB or higher traffic noise level increases over the existing conditions:

- Alton s/o Irvine
- Bake s/o I-5
- Barranca e/o Technology
- Barranca w/o Alton
- Irvine e/o Culver
- Irvine w/o Jeffrey
- Jeronimo e/o Alton
- Rockfield w/o Lake Forest
- Sand Canyon n/o Trabuco
- Technology n/o Barranca
- Toledo e/o Alton
- Toledo w/o Lake Forest

- Trabuco e/o Bake
- Trabuco w/o Lake Forest

The following roadway links are impacted by the Proposed Project only with 1.5 dB or higher traffic noise level increases over the existing conditions:

- Irvine e/o ETC East Leg
- Jeffrey n/o Trabuco
- Jeffrey n/o I-5
- Sand Canyon s/o I-5

The same four areas of residential development that may be significantly impacted by traffic noise impacts associated with the Proposed Project would be significantly impacted by the ETRPA Nonaviation Plan Alternative as well, as discussed in Section 4.4, Noise.

Comparison to Existing Plus Committed Conditions

A comparison of the impacts of the year 2020 ETRPA Nonaviation Plan Alternative and year 2020 Proposed Project is as follows:

Impacted Roadway Links

The following roadway links are impacted by the Proposed Project and the ETRPA Nonaviation Plan Alternative with 1.5 dB or higher traffic noise level increases over the 2020 No Project conditions:

- Irvine e/o ETC East Leg
- Irvine w/o Alton

The following roadway links are impacted by the ETRPA Nonaviation Plan Alternative only with 1.5 dB or higher traffic noise level increases over the 2020 No Project conditions:

- Alton n/o Commercentre
- Bake s/o I-5
- Commercentre w/o Bake
- Rancho e/o Alton
- Trabuco w/o Sand Canyon

The following roadway links are impacted by the Proposed Project only with 1.5 dB or higher traffic noise level increases over the 2020 No Project conditions:

- ETC East Leg s/o Irvine
- SR-133 s/o I-5
- SR-133 n/o I-405
- Trabuco e/o Sand Canyon

8.3.5.5 Air Quality

The air quality impacts of the ETRPA Nonaviation Plan Alternative were identified by analyzing the short-term impacts (construction), regional air quality impacts (total air pollutants emissions), local air quality impacts due to traffic carbon monoxide, and local impacts due to aircraft and associated operations in comparison to the Proposed Project's impacts. As summarized below, the ETRPA Alternative would result in additional significant regional air quality impacts that would be greater than the Proposed Project under all development scenarios due to Orange County generated demand being serviced at other regional airports outside of the County similar to the No Project/No Activity Alternative (Alternative E). This alternative would also result in significant local CO hot spot air quality impacts associated with vehicle emissions not identified under the Proposed Project. In addition, it is likely that construction emissions would be significant and would be greater than under the Proposed Project due to the proposed greater intensity of use at the MCAS El Toro site. This alternative, however, would avoid the significant local air quality impacts of the Proposed Project resulting from aircraft emissions at OCX and JWA.

Short-Term Air Quality Impacts (Construction)

Under this alternative, no significant runway improvements would be made at JWA. MCAS El Toro, however, would be developed with nonaviation uses in greater intensity and density than under the Proposed Project. Therefore, total construction emissions are anticipated to be greater than those of the Proposed Project in all phasing years due to higher density or intensity land uses being proposed at the MCAS El Toro site.

Operational Air Quality Impacts

Emissions Inventories

Under this project alternative, JWA will serve 8.4 MAP in Phase 4. No aviation reuse at MCAS El Toro would occur as the site would be developed based on the nonaviation land uses proposed in the ETRPA Plan. Although there would be no emissions associated with aviation uses at MCAS El Toro, there would be emissions associated with energy consumption and vehicular trips by the nonaviation uses. Project build out air pollutant emissions associated with airport operations at JWA and nonaviation land uses at OCX are shown below in Table 8.3-12 for this alternative.

**Table 8.3-12
Phase 4 ETRPA Nonaviation Plan Alternative –
Project Direct Air Pollutant Emissions (Pounds/Day)**

	CO	NO_x	ROC¹	SO_x	PM₁₀
Aircraft	7,061.00	3,025.85	402.78	239.64	44.48
MCAS El Toro	0.00	0.00	0.00	0.00	0.00
JWA	7,061.00	3,025.85	402.78	239.64	44.48
GSE/APU	5,610.84	597.89	171.83	14.93	26.54
MCAS El Toro	0.00	0.00	0.00	0.00	0.00
JWA	5,610.84	597.89	171.83	14.93	26.54
Fuel Storage/Dispensing	0.00	0.00	9.14	0.00	0.00
MCAS El Toro	0.00	0.00	0.00	0.00	0.00
JWA	--	--	9.14	--	--
Airport Roadways	117.92	13.70	3.99	0.56	1.17
MCAS El Toro	0.00	0.00	0.00	0.00	0.00
JWA	117.92	13.70	3.99	0.56	1.17
Airport Parking	96.38	7.40	9.98	3.05	0.28
MCAS El Toro	0.00	0.00	0.00	0.00	0.00
JWA	96.38	7.40	9.98	3.05	0.28
Energy Consumption	161.20	500.70	313.70	18.70	6.80
MCAS El Toro	129.60	318.50	312.00	NA	0.60
JWA	31.60	182.20	1.70	18.70	6.20
Vehicular Traffic	20,714	7,186	1,964	605	3,511
MCAS El Toro	16,145	5,338	1,605	493	2,565
JWA	4,569	1,848	359	112	946
Total (lbs/day)	33,761	11,332	2,875	882	3,590

Source: CH2M Hill and LSA Associates, Inc., 2001

¹ ROC emissions obtained by multiplying HC emissions reported by EDMS by a factor of 1.14.

Total project direct emissions under this alternative would be significantly higher than the emissions under the Existing Conditions (1998). The increase in emissions for each criteria pollutant exceeds the applicable SCAQMD threshold. Accordingly, the ETRPA Alternative would result in significant operational air quality impacts.

Regional air pollutant emissions, including airport operations at other airports in the region and VMT required for air travel passengers to get to these airports, would be similar to those shown in Tables 8.2-3A and 8.2-3B for the No Project/No Activity Alternative. When compared to the regional air quality emissions associated with the Proposed Project, this project alternative would have higher regional CO, NO_x, SO_x, ROC, and PM₁₀ emissions than the Proposed Project. Because of the conclusions reached in connection with the No Project/No Activity Alternative, this would likely be true in all phasing years under the ETRPA Alternative, as well. As discussed in connection with the No Project/No Activity scenario, the failure to provide sufficient airport capacity in Orange County to meet the

locally generated demand will result in increased VMT and increased aircraft emissions as a result of longer taxi times and LTO cycle time as average delay time at these regional airports increases.

Dispersion Analysis

No airport emissions dispersion analysis was conducted for this project alternative. However, because local criteria pollutant hot spots were found under the No Project/No Activity Alternative, which has the same annual aircraft LTO operations at JWA, it is expected that criteria pollutant hot spots from aircraft exhaust emissions would also occur under this alternative. This alternative, however, would avoid the significant and unavoidable local air quality impacts at OCX and JWA due to aircraft and associated operations.

With regard to vehicle emissions at intersections in the vicinity of the project sites, the CAL3QHC model was used to assess CO concentrations. Tables 8.3-13 through 8.3-16 show the one-hour and eight-hour CO concentrations under the Existing Conditions (1998) plus ETRPA Nonaviation Plan scenario. Because of the CAL3QHC modeling selection criteria, not all intersections modeled for the Existing Conditions (1998) scenario were modeled for the Existing Conditions plus ETRPA Nonaviation Plan. However, for those intersections that were modeled under both scenarios, the increase in CO concentration would be 0.6 ppm or smaller for the one-hour CO concentrations, which is less than the 1 ppm threshold established by the SCAQMD. However, some of the increases in CO concentrations would exceed the thresholds of significant changes (0.45 ppm) for the eight-hour CO concentration. Based on this analysis, the ETRPA Nonaviation Plan Alternative would result in significant local air quality impacts related to vehicle CO hot spot concentrations. In comparison to the Proposed Project, the ETRPA Alternative would result in exceedances of the eight-hour CO standard not present under the Proposed Project. Therefore, the ETRPA Alternative would result in significant local air quality impacts not identified under the Proposed Project.

Toxic Air Contaminants

Under this alternative, although there would be no runway improvements at JWA and there would be no aviation reuse of MCAS El Toro, MCAS El Toro would be developed with nonaviation uses that are higher in density and intensity than are proposed under the project (Alternative B). Therefore, although it is difficult to predict, it is likely that this alternative would result in toxic air contaminant impacts that would be significant.

Table 8.3-13
Year 1998 Existing Conditions Plus ETRPA Nonaviation Plan - Predicted One Hour Ambient Carbon Monoxide Concentration
for Intersections with the Highest Volume and Worst Level of Service (LOS)

INT#	INTERSECTING STREETS	REC1 ¹³	REC2 ¹³	REC3 ¹³	REC4 ¹³	REC5 ¹³	REC6 ¹³	REC7 ¹³	REC8 ¹³	REC9 ¹³	REC10 ¹³	REC11 ¹³	REC12 ¹³
CITY OF TUSTIN¹³													
26	Jamboree & Irvine	13.1	13.0	13.0	13.5	12.8	12.7	12.6	12.9	12.6	12.7	12.6	12.7
CITY OF IRVINE¹⁴													
238	Bake & Irvine/Trabuco	8.6	9.0	8.4	8.4	8.0	8.6	8.0	7.9	8.1	8.2	8.2	8.6
268	Bake & Rockfield	8.2	8.2	8.4	8.3	8.0	8.1	8.1	8.1	8.0	8.3	7.8	8.1
175	Jamboree & Michelson	8.6	8.4	8.5	8.2	7.9	8.2	7.9	8.0	8.0	8.2	8.0	8.3
156	Jamboree & Main	8.4	8.4	8.4	8.2	8.0	8.1	7.9	7.9	7.9	8.1	7.9	8.3
237	Alton & Irvine	8.3	8.7	8.2	8.1	7.9	8.1	8.1	8.3	7.7	7.7	8.0	8.2
68	Sand Canyon & Trabuco	8.3	8.0	8.6	8.5	8.1	7.9	7.8	8.3	7.7	8.1	7.7	7.8
320	Trabuco & Irvine	8.1	8.1	8.2	7.9	7.8	7.7	7.8	8.1	7.7	7.5	7.7	7.9
338	Millennium & Alton	8.3	8.3	8.2	8.3	8.0	8.1	7.9	8.2	7.9	8.2	7.9	8.0
151	Red Hill & MacArthur	8.3	8.1	8.0	8.3	7.8	7.9	7.8	8.0	7.9	7.9	7.9	8.0
319	E. Central Park & Irvine	7.8	8.3	7.9	7.8	7.6	7.9	7.7	7.7	7.4	7.3	7.6	7.7
130	Technology & Barranca	8.0	7.9	7.9	8.2	7.5	7.3	7.6	7.7	7.6	7.7	7.6	7.7
317	W. Central Park & Irvine	8.0	8.1	7.9	8.3	7.9	8.0	7.6	7.9	7.7	8.0	7.6	7.7
316	Research & Irvine	8.1	8.2	8.0	8.2	7.7	7.7	7.6	7.8	7.8	7.9	7.6	7.7
318	Millennium & Irvine	7.9	8.2	7.9	8.0	7.7	7.7	7.7	7.8	7.4	7.4	7.8	7.9
337	Millennium & Barranca	8.5	8.0	8.1	8.3	7.9	7.8	7.9	8.0	8.1	8.2	7.9	8.2
32	Sand Canyon & Irvine	8.3	8.2	8.2	8.1	8.1	8.3	7.9	8.1	7.6	7.6	7.9	7.8
CITY OF LAGUNA HILLS¹⁴													
280	El Toro & Avd. Carlota	8.4	7.9	8.2	8.1	7.6	7.9	7.5	7.7	7.8	7.9	7.8	7.9
CITY OF LAKE FOREST¹⁴													
269	Lake Forest & Rockfield	8.5	8.6	8.5	8.5	8.0	8.6	7.9	8.0	7.9	8.2	8.0	8.5
CITY OF MISSION VIEJO¹⁴													
265	Alicia & Muirlands	8.4	8.3	8.3	8.2	7.8	8.0	7.8	8.0	7.8	8.0	7.9	8.1

Note: * - Concentrations are in parts per million (ppm); federal one-hour CO standard is 35 ppm; State one-hour CO standard is 20 ppm.

1 - REC1 SW CORNER

2 - REC2 SE CORNER

3 - REC3 NE CORNER

4 - REC4 NW CORNER

5 - REC5 S. DEPARTURE - MID BLOCK

6 - REC6 N. APPROACH - MID BLOCK

7 - REC7 E. DEPARTURE - MID BLOCK

8 - REC8 W. APPROACH - MID BLOCK

9 - REC9 N. DEPARTURE - MID BLOCK

10 - REC10 S. APPROACH - MID BLOCK

11 - REC11 W. DEPARTURE - MID BLOCK

12 - REC12 E. APPROACH - MID BLOCK

13 - The ambient one-hour CO concentration, 12.0 ppm, the second highest one-hour CO concentration at the nearest air monitoring station, Central Orange County Air Monitoring Station between the years of 1993 and 1997, is added to the calculated one-hour levels.

14 - The ambient one-hour CO concentration, 7.0 ppm, the second highest one-hour CO concentration at the nearest air monitoring station, Saddleback Valley Air Monitoring Station between the years of 1993 and 1997, is added to the calculated one-hour levels.

Table 8.3-14
Year 1998 Existing Conditions Plus ETRPA Nonaviation Plan - Predicted Eight Hour Ambient Carbon Monoxide Concentration
for Intersections with the Highest Volume and Worst Level of Service (LOS)

INT#	INTERSECTING STREETS	REC1 ¹	REC2 ²	REC3 ³	REC4 ⁴	REC5 ⁵	REC6 ⁶	REC7 ⁷	REC8 ⁸	REC9 ⁹	REC10 ¹⁰	REC11 ¹¹	REC12 ¹²
CITY OF TUSTIN¹³													
26	Jamboree & Irvine	8.8	8.7	8.7	9.1	¹⁴ 8.6	8.5	8.4	8.6	8.4	8.5	8.4	8.5
CITY OF IRVINE¹⁵													
238	Bake & Irvine/Trabuco	5.2	5.5	5.1	4.8	5.2	4.8	4.7	4.9	4.9	4.9	4.9	5.2
268	Bake & Rockfield	5.2	5.5	5.1	4.8	5.2	4.8	4.7	4.9	4.9	4.9	4.9	4.9
175	Jamboree & Michelson	5.2	5.5	5.1	4.8	5.2	4.8	4.7	4.9	4.9	4.9	4.9	5.0
156	Jamboree & Main	5.2	5.5	5.1	4.8	5.2	4.8	4.7	4.9	4.9	4.9	4.9	5.0
237	Alton & Irvine	5.2	5.5	5.1	4.8	5.2	4.8	4.7	4.9	4.9	4.9	4.9	4.9
68	Sand Canyon & Trabuco	5.2	5.5	5.1	4.8	5.2	4.8	4.7	4.9	4.9	4.9	4.9	4.7
320	Trabuco & Irvine	5.2	5.5	5.1	4.8	5.2	4.8	4.7	4.9	4.9	4.9	4.9	4.7
338	Millennium & Alton	5.2	5.5	5.1	4.8	5.2	4.8	4.7	4.9	4.9	4.9	4.9	4.8
151	Red Hill & MacArthur	5.2	5.5	5.1	4.8	5.2	4.8	4.7	4.9	4.9	4.9	4.9	4.8
319	E. Central Park & Irvine	5.2	5.5	5.1	4.8	5.2	4.8	4.7	4.9	4.9	4.9	4.9	4.6
130	Technology & Barranca	5.2	5.5	5.1	4.8	5.2	4.8	4.7	4.9	4.9	4.9	4.9	4.6
317	W. Central Park & Irvine	5.2	5.5	5.1	4.8	5.2	4.8	4.7	4.9	4.9	4.9	4.9	4.6
316	Research & Irvine	5.2	5.5	5.1	4.8	5.2	4.8	4.7	4.9	4.9	4.9	4.9	4.6
318	Millennium & Irvine	5.2	5.5	5.1	4.8	5.2	4.8	4.7	4.9	4.9	4.9	4.9	4.7
337	Millennium & Barranca	5.2	5.5	5.1	4.8	5.2	4.8	4.7	4.9	4.9	4.9	4.9	4.9
32	Sand Canyon & Irvine	5.2	5.5	5.1	4.8	5.2	4.8	4.7	4.9	4.9	4.9	4.9	4.7
CITY OF LAGUNA HILLS¹³													
280	El Toro & Avd. Carlota	5.2	5.5	5.1	5.1	4.8	5.2	4.8	4.7	4.9	4.9	4.9	4.7
CITY OF LAKE FOREST¹⁴													
269	Lake Forest & Rockfield	5.2	5.5	5.1	5.1	4.8	5.2	4.8	4.7	4.9	4.9	4.9	5.2
CITY OF MISSION VIEJO¹⁵													
265	Alicia & Muirlands	5.2	5.5	5.1	5.1	4.8	5.2	4.8	4.7	4.9	4.9	4.9	4.9

Note. * - Concentrations are in parts per million (ppm); federal eight-hour CO standard is 9 ppm.

1 - REC1 SW CORNER

2 - REC2 SE CORNER

3 - REC3 NE CORNER

4 - REC4 NW CORNER

5 - REC5 S. DEPARTURE - MID BLOCK

6 - REC6 N. APPROACH - MID BLOCK

7 - REC7 E. DEPARTURE - MID BLOCK

8 - REC8 W. APPROACH - MID BLOCK

9 - REC9 N. DEPARTURE - MID BLOCK

10 - REC10 S. APPROACH - MID BLOCK

11 - REC11 W. DEPARTURE - MID BLOCK

12 - REC12 E. APPROACH - MID BLOCK

13 - The ambient eight-hour CO concentration, 8.0 ppm, the second highest eight-hour CO concentration at the nearest air monitoring station, Central Orange County Air Monitoring Station between the years of 1993 and 1997, is added to the product of the calculated one-hour levels multiplied by a persistent factor of 0.7.

14 - Number in bold represents exceedance of the standards.

15 - The ambient eight-hour CO concentration, 4.1 ppm, the second highest eight-hour CO concentration at the nearest air monitoring station, Saddleback Valley Air Monitoring Station between the years of 1993 and 1997, is added to the product of the calculated one-hour levels multiplied by a persistent factor of 0.7.

Table 8.3-15
Phase 4 ETRPA Non-Aviation Plan – Predicted One Hour Ambient Carbon Monoxide Concentration for
Intersections with the Highest Volume and Worst Level of Service (LOS)

INT#	INTERSECTING STREETS	REC1 ¹	REC2 ²	REC3 ³	REC4 ⁴	REC5 ⁵	REC6 ⁶	REC7 ⁷	REC8 ⁸	REC9 ⁹	REC10 ¹⁰	REC11 ¹¹	REC12 ¹²
CITY OF SANTA ANA¹³													
154	MacArthur & Main	7.0	7.2	7.1	7.1	6.8	6.8	6.6	7.1	6.8	7.0	6.7	6.8
152	Main & Sunflower	6.9	7.1	6.7	7.0	6.6	6.9	6.5	6.5	6.7	6.8	7.0	6.8
CITY OF TUSTIN¹⁴													
93	Newport & Edinger	7.2	7.0	6.8	7.2	6.7	6.6	6.6	6.7	6.7	6.9	6.6	6.9
CITY OF IRVINE¹⁴													
116	Jamboree & Barranca	5.8	5.9	5.6	5.6	5.3	5.5	5.3	5.5	5.5	5.4	5.5	5.7
156	Jamboree & Main	5.7	5.6	5.6	5.4	5.2	5.4	5.3	5.4	5.4	5.3	5.4	5.6
98	Culver & Irvine Center	5.6	5.5	5.7	5.6	5.3	5.4	5.3	5.5	5.2	5.5	5.4	5.5
134	Jamboree & Alton	5.6	5.6	5.8	5.6	5.1	5.5	5.2	5.4	5.3	5.4	5.4	5.6
175	Jamboree & Michelson	5.8	5.4	5.4	5.5	5.2	5.3	5.3	5.3	5.4	5.4	5.5	5.4
100	Jeffrey & Irvine Center	5.5	5.6	5.6	5.7	5.3	5.5	5.2	5.3	5.3	5.6	5.2	5.3
151	Red Hill & MacArthur	5.7	5.4	5.5	5.6	5.0	5.4	5.4	5.3	5.3	5.4	5.3	5.7
155	Von Karman & Main	5.5	5.6	5.8	5.5	5.2	5.6	5.3	5.4	5.1	5.4	5.4	5.4
316	Research & Irvine	5.2	5.2	5.2	5.3	5.0	5.0	5.0	5.1	5.0	5.3	5.0	5.1
68	Sand Canyon & Trabuco	5.2	5.3	5.3	5.2	5.1	5.0	5.1	5.3	5.0	5.1	5.1	4.9
31	Jeffrey & Irvine	5.3	5.5	5.4	5.5	5.2	5.3	5.1	5.2	4.9	5.2	5.0	5.1
153	Red Hill & Main	5.4	5.5	5.5	5.5	5.1	5.3	5.1	5.2	5.2	5.2	5.1	5.3
320	Trabuco & Irvine	5.4	5.5	5.6	5.5	5.2	5.3	5.2	5.3	5.1	5.3	5.2	5.3
CITY OF LAGUNA BEACH¹⁴													
299	Moulton & El Toro	5.6	5.4	5.5	5.5	5.1	5.3	5.4	5.5	5.0	5.3	5.1	5.1
CITY OF LAGUNA HILLS¹⁴													
280	El Toro & Avd. Carlota	5.5	5.3	5.5	5.4	5.0	5.3	5.1	5.1	5.3	5.2	5.1	5.3
CITY OF LAKE FOREST¹⁴													
271	El Toro & Rockfield	5.5	5.4	5.6	5.5	5.2	5.3	5.3	5.5	5.2	5.4	5.0	5.3
CITY OF SAN JUAN CAPISTRANO¹⁴													
287	Laguna Hills & Paseo Valencia	5.1	5.5	5.2	5.1	5.0	5.2	4.9	5.0	4.8	4.9	5.1	5.0

Note: ¹⁴ - Concentrations are in parts per million (ppm)

1 - REC1 SW CORNER

2 - REC2 SE CORNER

3 - REC3 NE CORNER

4 - REC4 NW CORNER

5 - REC5 S. DEPARTURE - MID BLOCK

6 - REC6 N. APPROACH - MID BLOCK

7 - REC7 E. DEPARTURE - MID BLOCK

8 - REC8 W. APPROACH - MID BLOCK

9 - REC9 N. DEPARTURE - MID BLOCK

10 - REC10 S. APPROACH - MID BLOCK

11 - REC11 W. DEPARTURE - MID BLOCK

12 - REC12 E. APPROACH - MID BLOCK

13 - The ambient one-hour CO concentration, 6.1 ppm, obtained by multiplying a rollback factor to the second highest one-hour CO concentration at the nearest air monitoring station, Central Orange County Air Monitoring Station between the years 1996 to 2000, is added to the calculated one hour levels.

14 - The ambient one-hour CO concentration, 4.6 ppm, obtained by multiplying a rollback factor to the second highest one-hour CO concentration at the nearest air monitoring station, Saddleback Valley Air Monitoring Station between the years 1996 to 2000, is added to the calculated one hour levels.

Table 8.3-16
Phase 4 ETRPA Non-Aviation Plan -- Predicted Eight Hour Ambient Carbon Monoxide Concentration for
Intersections with the Highest Volume and Worst Level of Service (LOS)

INT#	INTERSECTING STREETS	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12
CITY OF SANTA ANA¹³													
154	MacArthur & Main	5.2	5.4	5.3	5.3	5.1	5.1	5.0	5.3	5.1	5.2	5.0	5.1
152	Main & Sunflower	5.2	5.3	5.0	5.2	5.0	5.2	4.9	4.9	5.0	5.1	5.2	5.1
CITY OF TUSTIN¹³													
93	Newport & Edinger	5.4	5.2	5.1	5.4	5.0	5.0	5.0	5.0	5.0	5.2	5.0	5.2
CITY OF IRVINE¹⁴													
116	Jamboree & Barranca	3.7	3.8	3.6	3.6	3.4	3.5	3.4	3.5	3.5	3.5	3.5	3.7
156	Jamboree & Main	3.7	3.6	3.6	3.5	3.3	3.5	3.4	3.5	3.5	3.4	3.5	3.6
98	Culver & Irvine Center	3.6	3.5	3.7	3.6	3.4	3.5	3.4	3.5	3.3	3.5	3.5	3.5
134	Jamboree & Alton	3.6	3.6	3.7	3.6	3.3	3.5	3.3	3.5	3.4	3.5	3.5	3.6
175	Jamboree & Michelson	3.7	3.5	3.5	3.5	3.3	3.4	3.4	3.4	3.5	3.5	3.5	3.5
100	Jeffrey & Irvine Center	3.5	3.6	3.6	3.7	3.4	3.5	3.3	3.4	3.4	3.6	3.3	3.4
151	Red Hill & MacArthur	3.7	3.5	3.5	3.6	3.2	3.5	3.5	3.4	3.4	3.5	3.4	3.7
155	Von Karman & Main	3.5	3.6	3.7	3.5	3.3	3.6	3.4	3.5	3.3	3.5	3.5	3.5
316	Research & Irvine	3.3	3.3	3.3	3.4	3.2	3.2	3.2	3.3	3.2	3.4	3.2	3.3
68	Sand Canyon & Trabuco	3.3	3.4	3.4	3.3	3.3	3.2	3.3	3.4	3.2	3.3	3.3	3.1
31	Jeffrey & Irvine	3.4	3.5	3.5	3.5	3.3	3.4	3.3	3.3	3.1	3.3	3.2	3.3
153	Red Hill & Main	3.5	3.5	3.5	3.5	3.3	3.4	3.3	3.3	3.3	3.3	3.3	3.4
320	Trabuco & Irvine	3.5	3.5	3.6	3.5	3.3	3.4	3.3	3.4	3.3	3.4	3.3	3.4
CITY OF LAGUNA BEACH¹⁴													
299	Moulton & El Toro	3.6	3.5	3.5	3.5	3.3	3.4	3.5	3.5	3.2	3.4	3.3	3.3
CITY OF LAGUNA HILLS¹⁴													
280	El Toro & Avd Carlota	3.5	3.4	3.5	3.5	3.2	3.4	3.3	3.3	3.4	3.3	3.3	3.4
CITY OF LAKE FOREST¹⁴													
271	El Toro & Rockfield	3.5	3.5	3.6	3.5	3.3	3.4	3.4	3.5	3.3	3.5	3.2	3.4
CITY OF SAN JUAN CAPISTRANO¹⁴													
287	Laguna Hills & Paseo Valencia	3.3	3.5	3.3	3.3	3.2	3.3	3.1	3.2	3.0	3.1	3.3	3.2

Note: * - Concentrations are in parts per million (ppm)

1 - REC1 SW CORNER

2 - REC2 SE CORNER

3 - REC3 NE CORNER

4 - REC4 NW CORNER

5 - REC5 S. DEPARTURE - MID BLOCK

6 - REC6 N. APPROACH - MID BLOCK

7 - REC7 E. DEPARTURE - MID BLOCK

8 - REC8 W. APPROACH - MID BLOCK

9 - REC9 N. DEPARTURE - MID BLOCK

10 - REC10 S. APPROACH - MID BLOCK

11 - REC11 W. DEPARTURE - MID BLOCK

12 - REC12 E. APPROACH - MID BLOCK

13 - The ambient eight-hour CO concentration, 4.6 ppm, obtained by multiplying a rollback factor to the second highest eight-hour concentration at the nearest air monitoring station, Central Orange County Air Monitoring Station between the years of 1996 to 2000, is added to the product of the calculated one-hour levels multiplied by a persistent factor of 0.7.

14 - The ambient eight-hour CO concentration, 2.9 ppm, obtained by multiplying a rollback factor to the second highest eight-hour concentration at the nearest air monitoring station, Saddleback Valley Air Monitoring Station between the years of 1996 to 2000, is added to the product of the calculated one-hour levels multiplied by a persistent factor of 0.7.

8.3.5.6 Topography

The Nonaviation Plan Alternative was prepared by ETRPA at a General Plan level of detail, which is insufficient to determine at this time the topographic effects of this alternative.

Usage of JWA under the ETRPA Nonaviation Plan Alternative would be the same as the current usage, and therefore would not entail potential topographic impacts.

Under the Proposed Project, due to the relatively flat to gently sloping topography, both before and after grading, and the lack of any unusual or unique topographic features on the site, no significant adverse impacts to topography at MCAS El Toro are anticipated. No modifications to the existing topography at JWA are proposed.

8.3.5.7 Soils, Geology and Seismicity

Usage of MCAS El Toro under the ETRPA Nonaviation Plan Alternative would entail development of the site for nonaviation uses. Potential geophysical impacts of the ETRPA Nonaviation Plan Alternative project would likely be similar to those of the Proposed Project, but would differ in detail, depending upon the specific types or locations of structures or other features to be constructed.

Usage of JWA under the ETRPA Nonaviation Plan Alternative would be the same as the current usage, and therefore would not raise potential impacts related to soils, geologic features or seismicity. Likewise, under the Proposed Project no significant modifications would be made and, therefore, no impacts are anticipated.

8.3.5.8 Hydrology and Water Quality

Under the ETRPA Nonaviation Plan Alternative, the potential impacts at the MCAS El Toro site related to hydrology and water quality would be similar to those identified under the Proposed Project because both alternatives have approximately the same impervious acreage and open space areas. However, under the Proposed Project, design improvements are incorporated into the project that will reduce impacts to a level below significance. It is unclear whether the ETRPA Nonaviation Alternative includes similar design improvements.

Water quality constituents will be different under the ETRPA Nonaviation Plan Alternative as compared to the Proposed Project due to the differences associated with construction, operation, and runoff. Impacts to water quality resulting from construction, operations, and runoff under the Nonaviation Alternative can be mitigated using BMPs and other permit requirements.

Groundwater quality impacts under the ETRPA Nonaviation Plan Alternative would be the same as those discussed under the Proposed Project. No groundwater will be pumped from the MCAS El Toro site, so there will be no impacts to local groundwater levels or basin storage under either alternative.

Under this alternative, JWA would maintain the same volume of passenger traffic and would require no new construction. Therefore, the Nonaviation Alternative would not result in impacts related to hydrology and water quality at the JWA site.

8.3.5.9 Biological Resources

The direct impacts of the ETRPA Nonaviation Plan Alternative on biological resources will be limited primarily to the loss of some coastal sage scrub habitat, non-native plant communities, including agricultural habitats, non-native grasslands, disturbed/developed land, and their associated wildlife species. Approximately 758 acres of agricultural land will be impacted under the ETRPA Nonaviation Plan Alternative, compared to approximately 620 acres under the Proposed Project. There will not be any direct impacts to the federal Habitat Reserve.

There is some native Venturan-Diegan sage scrub habitat on the MCAS El Toro site outside the Habitat Reserve. This area occurs on a knoll and appears to be at least partially impacted by the Nonaviation Alternative, as indicated by the residential designation in this portion of the site. There is also a 20 acre parcel, south of Alton Parkway that does contain some coastal sage scrub. The nonaviation alternative does include a park/open space designation at this location. Depending upon the configuration of the uses, there may be some potential coastal sage scrub impacted at this location. These areas include California gnatcatcher habitat. In addition, streambed habitat is also impacted by the Nonaviation Alternative. These streambeds vary in terms of plant species they support. The streambeds include mulefat scrub, willow scrub, cattails, as well as highly disturbed and scoured sandy washes. Specific streambeds impacted include San Diego Creek, Serrano Creek, Borrego Wash, and portions of Agua Chinon Wash. It appears that Agua Chinon is retained north of Irvine Boulevard.

In contrast to the Proposed Project, there will be no potential beneficial impacts from the ETRPA Nonaviation Plan Alternative since the proposed wildlife habitat area along the eastern perimeter of the MCAS El Toro site is not included. In contrast, under the Proposed Project, the addition of native plant communities would potentially provide a wildlife habitat area between large habitat areas in the Coastal and Central Subregional NCCP/HCP Reserve System.

The ETRPA Nonaviation Plan Alternative assumes that JWA continues its existing role at an approved service level of 8.4 MAP, with no facility improvements. Therefore, this alternative would not result in any direct impacts on biological resources at JWA or the Upper Newport Bay.

Biological resources on MCAS El Toro that may experience indirect impacts as a result of the ETRPA Nonaviation Plan Alternative are primarily limited to resources in the federal Habitat Reserve. These potential impacts may occur with construction of the facilities associated with the Residential, Business/Technology, Village and Outdoor Sports districts. These indirect impacts may consist of construction dust, noise, introduction of non-native plants and animals, and increased human presence, similar to the Proposed Project. However, due to the distance of these impacts from the Habitat Reserve, potential indirect impacts on biological resources would be minimized and not considered significant.

8.3.5.10 Public Services and Utilities

The City of Irvine GPA, Zone Change, and Annexation EIR (March, 1999) concluded that, compared to the existing conditions, development of the ETRPA Alternative on the MCAS El Toro site could: 1) create potential short-falls in fire protection services and facilities; 2) may exacerbate overcrowding at area schools; 3) create significant traffic noise levels such that three existing schools would be within 65 dB CNEL noise contours; 4) potentially disrupt domestic water services to adjacent areas; 5) create the need for new sources of water to serve proposed development on site; and 6) require additional sewage treatment capacity and damage existing sewer treatment facilities on site. The City's EIR concluded that, with prescribed mitigation, these impacts would be reduced to below a level of significance.

Similarly, as described in Section 4.10 (Public Services and Utilities), after mitigation, the Proposed Project is not anticipated to result in significant adverse impacts related to utilities.

8.3.5.11 Natural Resources and Energy

The ETRPA Alternative would increase the consumption of energy compared to the existing condition. The ultimate build out and development of the ETRPA Nonaviation Alternative will require construction with a greater level of total energy consumption over a 20 year build out period compared with the existing (1998) setting and the Proposed Project. As a mixed-use development, operational energy consumption by the ETRPA project would likely be substantially less than under the existing setting (1998) but substantially more than the Proposed Project. However, both the ETRPA Plan Alternative and the Proposed Project would not result in significant adverse impacts related to energy resources.

Implementation of the ETRPA Nonaviation Alternative would eliminate all of the existing agricultural uses on the MCAS El Toro site. Some areas could remain in agricultural production until such time as development is phased in, or indefinitely, if certain areas are not developed. In comparison, the Proposed Project plans to reserve 139 acres of existing agricultural land. The loss of agricultural land is considered significant for either the ETRPA Alternative or Proposed Project cases; however, the ETRPA Alternative would have an incrementally larger impact on agricultural resources than the Proposed Project. Both the

ETRPA Alternative and Proposed Project would have greater impacts to agricultural resources compared with the existing setting.

8.3.5.12 Aesthetics, Light and Glare

At the MCAS El Toro site, the ETRPA Nonaviation Plan Alternative (ETRPA) would change the existing aesthetics of the site from a military aviation base to a mixed use urban planned community. The visual character of the site would change from an airfield with perpendicular runways and aviation support buildings, military community buildings, military housing, and recreational facilities to a more modern “village” development with business/technology, education, research, entertainment, retail, residential (low to high density), community parks and open space uses, and an outdoor sports complex. Buildings would include single to multi-story structures. The ETRPA Alternative also includes preservation of the natural habitat in the northeastern panhandle area of the site, as does the Proposed Project. A multi-modal transportation system is proposed to include bus, rail, and potential people-mover facilities.

Compared to the existing 1998 setting, development of the MCAS El Toro site with the ETRPA Alternative would visually appear to further intensify the surrounding urban setting, with office/commercial uses in the site vicinity and residential subdivisions in the surrounding hillsides. Specific potential aesthetic impacts of the ETRPA plan discussed in the City of Irvine’s GPA/ZC EIR include that new buildings proposed as part of the ETRPA plan may be several stories in height, which would be visible to motorists on adjacent roadways and from residences located west and at higher elevations southeast and northeast of the MCAS El Toro site. New public roadways proposed with the ETRPA plan would provide public views of future development within the site. Potential adverse aesthetic impacts could occur if adjacent structures have highly different architectural styles, massing, or building density (i.e., if residential and industrial structures are proposed near each other).

The ETRPA Alternative would not necessarily represent a significant aesthetic impact compared with the existing setting, in that it would not adversely affect (e.g., obstruct) any scenic vistas or highways. The Proposed Project would, in contrast, maintain the overall visual character of the former military base, with modernization of airport support facilities, and provision of more open space and recreation areas than is currently provided. The ETRPA Alternative would not necessarily substantially degrade the existing visual character or quality of the site or its surroundings; however, it would intensify the urbanization of the site by removing the runways and filling that area with a combination of buildings interlaced with community open areas and landscaping.

The City of Irvine GPA/ZC EIR also determined that new development within the site may create light and glare impacts on adjacent residents. The Proposed Project will also generate light and glare, but at levels that are more similar to the existing setting than the levels of the ETRPA plan. With either the ETRPA plan or the Proposed Project, light and glare will be kept to below the level of significance with implementation of mitigation measures that

would minimize light intrusion and spillover onto adjacent properties, and that would minimize glare from buildings and light sources.

At JWA, the ETRPA Nonaviation Plan Alternative would maintain status quo operations and would not change the existing aesthetic, light, or glare conditions. Therefore, the ETRPA Alternative would have approximately the same effects as the Proposed Project.

8.3.5.13 Cultural Resources

Redevelopment of the site with all nonaviation uses would have the same less than significant effects as the Proposed Project on cultural resources on the property since none of the cultural resources on the site are considered potentially significant. As with the Proposed Project, potential impacts of unknown archaeological resources during ground disturbance would be mitigated through implementation of standard construction monitoring measures.

The ETRPA Nonaviation Alternative assumes status quo operations at JWA. As such, there would be no additional or new effects on cultural resources in the JWA area, as there are no known archaeological, paleontological or historic resources on the already developed airport property.

8.3.5.14 Recreation

With the ETRPA Nonaviation Plan Alternative, the specific recreational features and facilities proposed with the Proposed Project would not be provided. However, the ETRPA Nonaviation Plan Alternative would provide recreational facilities, including a 360 acre community park, community and neighborhood parks totaling 168 acres, open space linkages to surrounding off-site open space areas, walking paths, hiking trails, off-road bikeways, a sports stadium, and a hotel conference center with golf course. No significant long-term impacts of the ETRPA plan on parks and recreational facilities are anticipated (City of Irvine GPA, Zone Change and Annexation DEIR for MCAS El Toro and James A. Musick Branch Jail, March 31, 1999) as the City of Irvine would provide for the parks and recreational needs of the site under the ETRPA plan.

Physical effects on adjacent off-site recreational trails are likely to be the same level of magnitude as that of the Proposed Project, assuming that there would be some temporary disruptions to on-road bikeways for street improvements to serve the nonaviation plan improvements. The primary difference between the ETRPA Nonaviation Plan Alternative and the Proposed Project in terms of recreational impacts would be the lack of aviation related noise under the ETRPA Nonaviation Plan Alternative. Because there would be no exposure of planned bicycle trails and riding and hiking trails to aircraft noise from the proposed OCX, the noise related impacts to recreation would be less than under the Proposed Project.

The status quo operations of JWA under the ETRPA Nonaviation Plan Alternative would have no change in effect on recreational facilities in the JWA area.

8.3.5.15 Public Health and Safety

Aviation Safety

Under the ETRPA Nonaviation Alternative, there would be no aviation activity at MCAS El Toro. Since there is no aviation activity at OCX, there would be zero aviation risks. Under the Proposed Project, there would be no significant adverse impacts related to aviation safety at the MCAS El Toro site or at JWA relative to on-airport and off-airport fatal accidents per million operations.

Compared to the existing conditions, there would be virtually no changes in the number of air carrier and air cargo operations and general aviation operations at JWA. Under this scenario, the potential air carrier and air cargo and general aviation accident risks at JWA would remain the same as the existing conditions. There would be no significant adverse impacts related to aviation safety at JWA.

8.3.5.16 Hazardous Materials and Hazardous Wastes

Hazardous Materials/Waste Usage

Most of the proposed uses under the ETRPA Nonaviation Plan Alternative would not yield large quantities of hazardous waste. However, hazardous waste generation could result from the proposed Orange County Transit Authority (OCTA) rail and bus maintenance facility, light industrial uses, and research and development uses. Compared to the Proposed Project, which would accommodate jet fuel storage and aircraft maintenance, the ETRPA Nonaviation Plan Alternative would involve substantially smaller quantities of hazardous material. All hazardous materials used, or generated, would be regulated by existing federal, state and local regulations. By meeting the regulatory guidelines, potential impacts associated with hazardous material use, or generation, would be maintained to below a level of significance. The potential impacts of the ETRPA Nonaviation Plan Alternative related to hazardous materials are generally described in the following sections for the different land uses proposed on the site under this alternative.

Habitat Reserve

The federal Habitat Reserve, outlined under the ETRPA Nonaviation Plan Alternative, would fall under the jurisdiction of a federal agency, which is the same as assumed under the Proposed Project. The ETRPA Nonaviation Plan also includes 686 acres of recreation uses in the southern portion of this area. However, the potential impacts associated with remediation activities addressed under the Installation Restoration Program (IRP) for Sites 1, 2, and 17 are the same for both the ETRPA Nonaviation Plan Alternative and the Proposed

Project. Since the areas under the ETRPA Nonaviation Plan Alternative are designated for use as a Habitat Reserve, the potential impacts associated with the presence of hazardous waste and the likelihood of future hazardous waste generated materials are anticipated to be less than significant.

Education, Research & Technology (ERT) District

Under the ETRPA Nonaviation Plan Alternative, the ERT District consists of an integrated, higher intensity grouping of high-density residential, retail and office uses, such as Village, Business/Technology, Education, Research & Technology Campus, Entertainment/Mixed Use, Parks/Open Space, Retail, and a Sports Complex. Development of the ERT District would encompass all or part of IRP Sites 3, 7, 11, 12, and 14.

ERT Village

A potential impact associated with the ERT Village residential land use outlined in the ETRPA Nonaviation Plan Alternative is its relation to the Base Realignment and Closure (BRAC) remediation activity at MCAS El Toro. One of the areas included within the ERT Village land use is IRP Site 3 near the eastern end of the loop formed by the proposed East Culture Road. Development of the ERT Village residential land use, which would overlie or directly abut IRP Site 3, would conflict with California Health and Safety Code (H&SC) Section 25202.5. Under this statute, a minimum buffer of 2,000 feet is required for residential development in the vicinity of a hazardous waste disposal facility. This is a significant adverse impact.

Under H&SC Section 25202.5, disposal of hazardous wastes, at a site with a buffer zone of less than 2,000 feet from residential land uses, is only allowable if it can be proven to the satisfaction of the California Department of Toxic Substance Control (DTSC) that the buffer zone is sufficient to protect present and future public health and safety. Therefore, development of residential uses overlying or within 2,000 feet of IRP Site 3 under the ETRPA Nonaviation Plan Alternative would result in significant adverse impacts related to hazardous wastes.

Another area of concern related to land use development within IRP Site 3 is that construction activities could result in greater potential impacts under the ETRPA Nonaviation Plan Alternative than those potential impacts under the Proposed Project. Construction activities in the area may require earth moving and excavation to accommodate foundations, subterranean parking, or footings for multi-story structures. Excavation in this area could result in the unearthing of hazardous wastes associated with IRP Site 3 and resultant exposures to construction workers and future residents on the site to levels that may exceed those deemed acceptable from a health protective perspective. Subsurface chemical concentrations in the soil are unknown, therefore a subsurface assessment of soil contamination would be required prior to any construction activities in the area where subsurface excavation is planned in order to more accurately characterize the risks

associated with disturbance of soils at the site. Impacts associated with construction worker exposures to contaminants likely could be mitigated to below a level of significance through implementation of personal protective equipment appropriate to the potential health threat posed by the site.

Business/Technology

The Business/Technology use areas of the ETRPA Nonaviation Plan Alternative would entail Research and Development, and Light Industrial uses. The Research and Development uses would consist of a variety of business and high technology uses, including production and service establishments, scientific laboratories, new technology training centers, professional/ administrative offices, and other supporting services. Police and fire stations are also a possibility within the Business/Technology land use designation.

The Light Industrial uses would encompass communications equipment manufacturing, electronics, pharmaceuticals, plastics, furniture and fixtures, printing and publishing, wholesaling, warehousing and distribution centers, professional/administrative offices, and other supporting uses.

Under the ETRPA Nonaviation Plan Alternative, proposed developments within the Business/Technology area encompass IRP Sites 11 and 12, and a portion of IRP Site 7. As discussed in Section 4.16 (Hazardous Wastes and Hazardous Materials), the Remedial Investigation/Feasibility Study (RI/FS) process for IRP Sites 7, 11, and 12 has not been completed; therefore, human health risk assessment data are not available for these sites and potential impacts associated with development of these sites cannot be fully evaluated. However, the type of land uses proposed for the site under the ETRPA Nonaviation Plan Alternative is not generally considered by EPA to be as sensitive as residential uses. Therefore, potential impacts associated with development under the proposed ETRPA Nonaviation Plan Alternative may not be significant.

As discussed in Section 4.16 (Hazardous Wastes and Hazardous Materials), the Department of the Navy (DON), with the approval of EPA and Cal-EPA, has been using industrial cleanup standards for IRP sites at MCAS El Toro. Based on this standard, development of the proposed uses within the Business/Technology land use areas of the ETRPA Nonaviation Plan Alternative is not anticipated to result in significant adverse impacts related to the presence of hazardous waste sites. Should conditions at Sites 7, 11, and 12 pose human health hazards which exceed acceptable levels under the industrial exposure scenario, remedial action will be prescribed by the DON, and agreed to by the U.S. EPA and Cal-EPA, which would reduce potential impacts to below a level of significance. These remedial actions could have an adverse effect on the land uses proposed.

Under the ETRPA Nonaviation Plan Alternative, IRP Site 14 (Battery Acid Disposal Area) lies within the ERT District, near the proposed intersection of Quantum Road and Research Parkway. The site is currently undergoing remedial investigation, and no human health risk assessment data are available. The ETRPA Nonaviation Plan Alternative proposes more

intense development overlying IRP Site 14, compared with that of the Proposed Project; thus, the potential for adverse impacts related to residual hazardous wastes is greater under the ETRPA Nonaviation Plan Alternative. However, under the ETRPA Nonaviation Plan Alternative, the ERT District would not likely consist of highly sensitive uses such as residential development; therefore, potential impacts associated with development of the IRP Site 14 area are anticipated to be less than significant following implementation of any prescribed remedial action.

Park and Open Space

Park and open space uses would comprise approximately 50 percent of the proposed ETRPA Nonaviation Plan Alternative. A network of open space corridors would interconnect the activity centers of the site, linking parks and recreational facilities to surrounding open space areas and other proposed uses. IRP Site 5 (Perimeter Road Landfill), a portion of IRP Site 7 (Drop Tank Drainage Area No. 2), and IRP Site 16 (Crash Crew Pit No. 2) are located within the area proposed for park and open space uses under the ETRPA Nonaviation Plan Alternative. Under the Proposed Project, IRP Site 5 is located in an open space area proposed for use as a Secondary Habitat Corridor. The potential impacts associated with the presence of IRP Site 5 under the ETRPA Nonaviation Plan Alternative are, therefore, similar to those of the Proposed Project, in terms of the proposed site development. Consequently, no significant adverse impacts related to the existence of IRP Site 5 are anticipated, provided that the selected presumptive remedy for the site remains intact.

Under the ETRPA Nonaviation Plan Alternative, proposed residential development also directly abuts IRP Site 5, which would be inconsistent with the California Health and Safety Code buffer zone requirements, as described regarding IRP Site 3 development.

Under the ETRPA Nonaviation Plan Alternative, a portion of IRP Site 7 and all of IRP Site 16 underlie an area proposed for park and open space land uses. Development of the proposed uses in this area will likely require some surface grading activities; however, no deep excavation is anticipated. Similar to the impacts of the Proposed Project, potential impacts would most likely be associated with exposing contaminated soils during construction. Because the ETRPA Nonaviation Plan Alternative proposes no structural development for human occupation in the Open Space area overlying IRP Sites 7 and 16, this usage will entail a relatively low level of risk to the public. Development of these sites under the Proposed Project would result in coverage by asphalt or concrete surfaces, which could aid in the reduction of potential contaminant migration. Park and Open Space uses under the ETRPA Nonaviation Plan Alternative likely would not provide this same benefit. Without more specific human health risk data for a portion of IRP Site 7 and all of IRP Site 16, the potential impacts associated with disturbance of these sites cannot be fully addressed; however, it is possible that some remedial action may be required before the sites can be developed for the proposed Millennium Park/Open Space uses.

Entertainment/Mixed Use

In response to a request by OCTA, the ETRPA Nonaviation Plan Alternative was modified to include approximately 50 acres of land for a rail and bus maintenance facility. The proposed facility would be located in an area northwest of the regional transportation center that was previously identified for entertainment/mixed use and research and development.

Site 8, the Defense Reutilization and Marketing Office (DRMO) Storage Yard, is located within the boundaries of the proposed OCTA Maintenance Facility. The RI/FS process for Site 8 has not been completed; therefore, human health risk assessment data are not available for this site and impacts associated with development of this site cannot be fully evaluated. The DON, with the approval of EPA and Cal-EPA, has been using industrial cleanup standards for IRP sites at MCAS El Toro. Based on these standards, development of the proposed uses within the OCTA Maintenance Facility area, under the ETRPA Nonaviation Plan Alternative, would not result in significant adverse impacts related to hazardous wastes. Should conditions at IRP Site 8 pose human health hazards that exceed acceptable levels under the industrial exposure scenario, remedial action will be prescribed by the DON, and agreed to by the U.S. EPA and Cal-EPA, to reduce potential impacts to below a level of significance.

8.3.5.17 Socioeconomics

Under the ETRPA Nonaviation Plan Alternative, the military would leave MCAS El Toro and the site would be converted into a mixed-use urban center, emphasizing high technology industries, education and recreation. This alternative would also provide a range of housing types on the site. JWA would continue to operate at a maximum of 8.4 MAP. As under the Proposed Project, no housing units will be constructed at JWA.

Under this alternative, almost 56,000 jobs would be generated, including 50,700 jobs at El Toro and 5,200 jobs at JWA in 2020 as shown earlier in Table 8.2-3. This represents a net increase of 48,100 jobs at El Toro and 3,100 jobs at JWA, over existing 1998 conditions. There would be approximately 13,600 people residing at El Toro under this Alternative in 5,900 housing units. In total, this alternative support generated 55,900 jobs, 13,600 persons, and 5,900 housing units on the project site. This figure is significantly higher than the number of jobs, persons, and housing units expected under the Proposed Project. As with the Proposed Project, economic activity occurring at El Toro and JWA, as well as expenditures by visitors arriving by air through JWA, would stimulate additional off-site job growth. The total number of on-site and off-site jobs stimulated by the airport system would be similar to the level under the Proposed Project.

Given the level of employment and population growth generated by this alternative, this would be considered a significant adverse impact under the threshold of significance related to inducing substantial growth or concentration of population or housing.

The ratio of 9.5 jobs for each housing unit under this alternative is lower than the jobs/housing ratio anticipated on the JWA and MCAS El Toro site under the adopted regional forecasts. It is also significantly lower than the jobs/housing ratio forecast under the Proposed Project. However, since this alternative would produce a jobs/housing ratio in the surrounding area that is higher than the ratio expected under the adopted regional growth forecasts, and since these areas are considered by SCAG to be housing poor, this would be a significant adverse impact of this alternative.

The impacts of this alternative related to housing demand, including low and moderate income housing needs, would be higher than under the Proposed Project as a substantially higher number of jobs would be generated under this alternative compared to the Proposed Project. However, this alternative would also provide a range of housing types on site, partially accommodating the increased demand for all types of housing in the area. Even with this housing, the impact of this alternative would be significantly adverse.

The ETRPA Nonaviation Plan Alternative would generate almost 56,000 jobs at El Toro and JWA, which is substantially higher than what was adopted in the regional forecasts, and would also result in an increase in on-site housing units over what was adopted in the regional forecasts. Therefore, this alternative would result in significant adverse impacts related to inconsistency with adopted regional forecasts.

8.3.5.18 Risk of Upset

Ultimate build out and development of the ETRPA Nonaviation Alternative may include land uses (e.g. the OCTA rail and bus maintenance facility, light industrial uses, and research/ development uses) that could result in a presently unidentified potential for risk of upset conditions. Compared with the Proposed Project, which would accommodate jet fuel transport and storage facilities and operations, the ETRPA Nonaviation Alternative likely would involve a lower potential for risk of upset conditions at the MCAS El Toro site. Risk of upset at JWA would be essentially the same as under the Proposed Project. On this basis, it would appear that implementation of the ETRPA Nonaviation Alternative would result in an unknown, but likely lower potential for adverse impacts to public health and safety than the Proposed Project.

8.3.6 Feasibility

Benefits generated by the proposed aviation uses on the MCAS El Toro site under the Proposed Project and benefits of the alternative nonaviation reuse plan are not mutually exclusive. Virtually all of the uses proposed under the nonaviation plan can be successfully developed at other locations in the County. In fact, the ability of many of these uses to attract tenants may be enhanced by airport system development and the improved economic competitiveness of the County resulting from Proposed Project implementation. Therefore, the potential benefits of the proposed aviation plan and the components of the nonaviation

plan if developed at other locations in the County are complementary, and in fact, taken together may be greater than the sum of the individual parts.

The converse, however, is not true. There is no feasible alternative site for an international airport in Orange County. Thus, reuse of MCAS El Toro for nonaviation purposes would preclude development of significant international and expanded domestic air service capabilities in Orange County, with the attendant loss of the potential quantifiable and non-quantifiable benefits to the County's economy (Technical Report 16, Economic Benefits Study).

In October, 1998, a consultant team of INTERRA, BBC Research & Consulting, and Urban Design Camp prepared an independent analysis of the ETRPA Nonaviation Plan for the Orange County Regional Airport Authority titled: Development Feasibility Analysis: El Toro Non-Aviation Reuse Alternative Millennium Plan, October 1998. In summary, the analysis concluded:

- (i) The office market absorption projections are reasonable.
- (ii) The current supply of industrial land in southern Orange County would meet demand for 30 years without this alternative. Therefore, the alternative would face considerable competition on cost/revenue pressure.
- (iii) The southern Orange County retail market is already well served and, therefore, the alternative's commercial center and Power Center are highly speculative.
- (iv) Actual residential competition in southern Orange County is 90 percent higher than the competition assumed in the alternative.
- (v) ETRPA underestimated the backbone public services costs for the alternative by \$38 million for water and sewer capacity, \$9 million for grading, and \$31.25 million for highway and street lighting improvements.
- (vi) ETRPA underestimated the development costs for schools, fire stations, police facilities, libraries, open space, and landscape amenities and other costs by \$226.15 million.
- (vii) ETRPA estimated that demolition costs would be about \$32.85 million, which is too low. (Note: the ASMP estimates that the ETRPA Alternative demolition costs would be \$193 million.)
- (viii) Based on these costs, the ETRPA Alternative would result in a net loss (cost versus revenue) of \$210 million.

In addition, the sports facilities included in the ETRPA Alternative would result in a net loss in cost versus revenue, requiring public subsidies according to the INTERRA analysis and

Sports, Jobs and Taxes, the Economic Impact of Sports Teams and Stadiums, Roger Noll and Andrew Zimbalist, Editors (1997).

8.3.7 Conclusions

In conclusion, the ETRPA Alternative would:

- (i) Would not meet any of the general project objectives, and would not meet the aviation objectives relating to passenger and cargo demand, service opportunities, industry competition, economic growth, business activities, existing land use restrictions, or General Plan implementation;
- (ii) Would not avoid impacts on land uses, General Plan consistency, regional air quality emissions, toxic air contaminants, and construction emissions;
- (iii) Would result in new or additional significant adverse impacts on traffic, regional VMT, regional air quality emissions, local air quality impacts due to traffic CO hot spots, agricultural soils, hazardous wastes, socioeconomics, economics, and adverse effects of aviation noise on a regional basis; and
- (iv) Would avoid aviation noise at the El Toro site, including sleep disturbances and on recreation uses; toxic air contaminants at El Toro associated with airport operations; local air quality impacts at OCX due to aircraft and associated operations; aviation safety effects at El Toro; and aviation risk of upset at El Toro.

In summary, the ETRPA Nonaviation Plan Alternative would avoid unmitigatable project impacts on toxic air contaminants near the El Toro site associated with airport operations and aviation noise impacts on sleep disturbance and recreation uses. However, this alternative would result in new or additional impacts in several categories, including traffic, significant increases in regional VMT, regional air quality emissions, construction emissions, local CO hot spot air quality impacts at OCX, and further loss of agricultural soils.

8.4 ALTERNATIVE A: JWA – STATUS QUO AVIATION ROLES; OCX – FULL DOMESTIC

This section presents the potential impacts of Alternative A as measured against the existing setting, as well as a comparison of the alternative's impacts to those of the Proposed Project at build out. In those instances in which the comparison of the alternative to the Proposed Project is materially affected by the phasing of the project, i.e., in those instances in which the impacts of the Proposed Project during the phasing years are materially different from those impacts at year 2020, a comparison of the alternative's impacts to those of the Proposed Project for the applicable phasing year is also provided.

This alternative was selected for analysis because it has the potential to lessen aircraft noise, traffic, and local air quality impacts of the Proposed Project while still feasibly attaining most of the objectives of the project.

8.4.1 Aviation Uses

Under Alternative A, OCX provides short-, medium- and long-haul domestic and limited (Mexican and Canadian) international air passenger service for an estimated 19.0 MAP, 12 percent (2.2 MAP) of which are passengers with connecting flights. OCX is also forecast to annually handle approximately 0.04 million tons of international cargo, and 1.21 million tons of domestic cargo. This alternative includes an on-airport 500-room hotel. Fuel for aircraft operations at OCX is assumed to be delivered by trucks.

Under Alternative A, JWA would continue to serve general aviation, as well as provide primarily short- and medium-haul domestic passenger service. JWA will serve 6.0 MAP in 2020 under this alternative, which is less than the current service level of 7.5 MAP.

No major runway improvements, such as the lengthening of a runway, would be made at JWA. On the MCAS El Toro site, Alternative A would reuse existing Runways 16R/34L and 7R/25L and reconstruct Runways 16L/34R and 7L/25R, offset 800 feet and 700 feet, respectively, from their parallel twins to meet FAA runway separation requirements for operations under visual conditions. Figure 8-2 depicts Alternative A.

8.4.2 Nonaviation Revenue Support Uses

The nonaviation land uses proposed under Alternative A are the same as the Proposed Project. However, the aviation development area in this alternative would be reduced by approximately 200 acres in Planning Area 1 and by about 175 acres in Planning Area 2 compared to the Proposed Project. These lands are assumed to be agricultural, horticultural, or passive open space uses.

8.4.3 Attainment of Project Objectives

This alternative would meet the general project objectives for base reuse except to enhance higher quality economic development. Alternative A would meet most of the aviation related objectives with the exception of meeting full international air traffic demand in Orange County, and achieving economic growth and business activities that would rely on full international aviation service. Since this alternative does not meet these project objectives, this Draft EIR proposes to reject this proposal.

8.4.4 Environmental Impacts of Alternative A

8.4.4.1 Land Use

Compared to existing conditions, this alternative would have no significant land use impacts at JWA, but would have impacts at the El Toro site similar to the Proposed Project. With the mitigation measures proposed for the Proposed Project, the impacts of this alternative would be reduced to a level of insignificance. This alternative would not avoid or substantially lessen the impacts of the Proposed Project.

There would be a slight increase in aviation activity at JWA and a decrease in overall aviation activity at MCAS El Toro under Alternative A compared with the Proposed Project. The aviation and nonaviation revenue support land uses for Alternative A are essentially the same as the Proposed Project. The perimeter uses associated with the development of an airport on the El Toro site are generally comparable in intensity or less intense than the existing and planned adjacent off-site uses. Therefore, as with the Proposed Project, there are no significant land use conflicts associated with the proposed land uses under this alternative.

The on-site agricultural uses under this alternative will be preserved within an increasingly urbanized area. Agricultural management practices can be implemented to reduce potential impacts. As with the Proposed Project, the on-site agriculture uses will not have significant impacts on off-site or other on-site land uses, and the impacts that might occur can be controlled through agricultural management practices and through the terms of the County's lease agreements.

The Proposed Project includes approximately 65 acres of airport parking in Planning Area 5 north of Irvine Boulevard, 200 acres of aviation uses in Planning Area 1, and 175 acres of aviation uses in Planning Area 2, which would not be required for this alternative. These airport areas includes Prime Agricultural Soils; therefore, this alternative would reduce the loss of Prime Agricultural Soils by up to 440 acres compared to the ASMP. However, as with the Proposed Project, there would continue to be a loss of Prime Agricultural Soils compared to existing conditions.

The proposed airport use at MCAS El Toro under Alternative A would attract new development in nearby areas. There is a potential for undesirable land use development (such as sexually oriented businesses) in the vicinity of the site, unless the County and adjacent cities have adequate land use controls in place. Also, the design of future off-site development may adversely affect existing and planned development in the adjacent jurisdictions if appropriate design standards are not implemented by the local jurisdictions. This potential impact is the same under both Alternative A and the Proposed Project.

Although the JWA aviation activity under Alternative A is slightly higher than the Proposed Project, it is lower than existing conditions, and future improvements would be very limited within the boundaries of the airport. Therefore, Alternative A, with less commercial aviation activity than existing JWA, would not have significant land use impacts.

The impacts of Alternative A related to land use are comparable to the impacts under the Proposed Project. This alternative would not avoid or measurably lessen the impacts of the Proposed Project.

8.4.4.2 General Plan Consistency

Compared to existing conditions, this alternative would have no significant impacts at JWA, but would have significant impacts at the El Toro site similar to the Proposed Project. With the mitigation measures proposed for the Proposed Project, the impacts of this alternative would be reduced to a level of insignificance.

Alternative A introduces a civilian aviation use to MCAS El Toro; therefore, as with the Proposed Project, an amendment to the Airport Environs Land Use Plan (AELUP) is required. In addition, the General Plan Amendments required for the Proposed Project would also be required for this alternative. Alternative A includes land uses which conflict with the adopted City of Irvine General Plan for Planning Area 7 (City of Irvine Planning Area 30). An amendment to the City of Irvine General Plan would not be required since the site would be under the County's jurisdiction. The need for amendments to General Plans and the AELUP for Alternative A are comparable to those required for the Proposed Project, therefore; the General Plan consistency impacts for Alternative A are the same as for the Proposed Project.

8.4.4.3 Transportation and Circulation

Compared to existing conditions, this alternative would have no significant impacts at JWA, but would have significant impacts at the El Toro site similar to the Proposed Project. With the project mitigation measures identified for this alternative, the impacts of this alternative would be reduced to a level of insignificance.

The AM and PM peak hour and average daily traffic (ADT) generated by the aviation operations at JWA and OCX and by nonaviation revenue support land uses with build out of Alternative A are summarized in Table 8.4-1. Refer to Section 9.0 in the 1999 Traffic Analysis Technical Report for detailed information on the methodology applied to produce trip generation estimates for Alternative A. This alternative would generate an increase of 112,757 ADT at the El Toro site compared to an increase of 150,723 ADT for the Proposed Project over existing conditions. The alternative would generate 167,083 ADT less than the CRP. At JWA, this alternative would generate 11,176 ADT less than existing conditions. For a comparison of peak hour trip generation, see Table 4.3-8. In summary, the alternative would generate significantly fewer daily and peak hour trips than the Proposed Project.

**Table 8.4-1
Trip Generation Summary - Alternative A**

Project Component	AM Peak Hour			PM Peak Hour			ADT	Existing ADT
	In	Out	Total	In	Out	Total		
Former MCAS El Toro site								
OCX Commercial Air Terminal	2,552	1,699	4,251	2,571	2,530	5,101	84,328	
OCX Air Cargo Handling Facility	360	433	793	473	281	754	10,810	
Nonaviation Revenue Support Land Uses	3,692	728	4,420	989	3,573	4,562	43,019	
Sub-Total (El Toro Site)	6,604	2,860	9,464	4,033	6,384	10,417	138,157	25,400
JWA	1,088	729	1,817	1,433	1,438	2,871	36,274	47,450
TOTAL	7,692	3,589	11,281	5,466	7,822	13,288	174,431	72,850

The on-site and site access circulation plans anticipated for JWA and OCX in Alternative A are the same as those described earlier in Section 4.3 (Transportation and Circulation) for the Proposed Project with the exception that 2020 Alternative A conditions do not assume the Trabuco Road/ETC interchange option because of the reduced trip generation of the alternative. Peak hour levels of service with and without Alternative A were compared in order to identify locations on the existing plus committed circulation system that require improvements to mitigate traffic impacts of Alternative A and other foreseeable growth or development. Table 8.4-2 compares, in summary, the Alternative A highway impacts to the existing conditions and existing conditions plus Proposed Project. As discussed in Section 4.3.6.5, there is minimal comparison between the existing conditions plus Proposed Project versus the Alternative A impacts due to highway improvements recently completed and the effects of committed highway improvements. Section 9.0 in the 1999 Traffic Analysis Technical Report includes detailed summaries of the Alternative A build out traffic volumes and levels of service (LOS) and comparisons between existing plus committed conditions with and without Alternative A for intersections and arterial roadways within the traffic analysis study area, and Section 9.0 in the 2001 Traffic Analysis Technical Report Addendum includes comparable information for freeway/tollway mainline segments and freeway/tollway ramps within the traffic analysis study area).

**Table 8.4-2
Summary Comparison of Traffic Impacts for Alternative A to
Existing Conditions and Existing Conditions Plus Project**

Existing Conditions Deficient Highway Facilities	Existing Conditions Plus Proposed Project Impacts	Alternative A With Existing Plus Committed Facilities
Location	Location	Location
INTERSECTIONS	IMPACTED INTERSECTIONS	IMPACTED INTERSECTIONS
Newport (NB) & Del Mar	Bake & Portola	ETC East Leg NB & Irvine
El Toro & SR-73 NB Ramps	Sand Canyon & Trabuco	Sand Canyon & Irvine
Campus & N. Bristol	Bake & I-5/I-405 SB Ramps	Sand Canyon & Trabuco
Jamboree (SB) & Walnut	Bake & Rockfield	Jeffrey & Irvine
Jamboree & I-405 NB Ramps	Jeffrey & Alton	Jeffrey & Trabuco
Jeffrey & I-405 NB Ramps	Jeffrey & I-405 NB Ramps	Sand Canyon & I-5 NB Ramps
Red Hill & MacArthur	Jeffrey & I-405 SB Ramps	Sand Canyon & I-5 SB Ramps
Irvine Center & Lake Forest	Jeffrey & Walnut/I-5 SB	Alicia & Paseo Valencia
Bake & Jeronimo	Sand Canyon & I-5 NB Ramps	El Toro & Rockfield
El Toro & Avd Carlota	Sand Canyon & I-5 SB Ramps	Alicia & Jeronimo
La Paz & Cabot/I-5 SB	Irvine Center & Lake Forest	Red Hill & I-5 NB Ramps
Los Alisos & Muirlands	Bake & Irvine/Trabuco	
Alicia & Jeronimo	Bake & Toledo	IMPACTED ARTERIAL ROADS
Alicia & Muirlands	Los Alisos & Muirlands	Irvine (ETC East Leg to PA-2 East Access Road)
La Paz & Muirlands/I-5 NB	Alicia & Jeronimo	Irvine (Jeffrey to Sand Canyon)
Red Hill & Edinger	Newport & Old Irvine	Laguna Canyon (south of El Toro)
Red Hill & Sycamore		
Red Hill & Walnut	IMPACTED ARTERIAL ROADS	IMPACTED FREEWAY/ TOLLWAY RAMPS
	Laguna Canyon (I-405 to SJHTC)	FTC (SR-241) at Portola East (NB Off-Ramp)
ARTERIAL ROADWAYS	Laguna Canyon (south of El Toro)	I-5 at Red Hill (SB On-Ramp)
Portola (Sand Canyon to Foothill Toll Road)	Culver (Bryan to Trabuco)	I-5 at La Paz (SB Off-Ramp)
Laguna Canyon (I-405 to SR-73)		I-405 at Sand Canyon (NB Direct On-Ramp)
Laguna Canyon (south of El Toro)	IMPACTED FREEWAY RAMPS	
Culver (Bryan to Trabuco)	I-5 at Culver (SB Off-Ramp)	IMPACTED FREEWAY/ TOLLWAY SEGMENTS
Michelson (Carlson to Harvard)	I-5 at Sand Canyon (NB On-Ramp)	FTC (Lake Forest to south of Portola East)
	I-5 at Sand Canyon (SB Off-Ramp)	I-5 (I-405 to north of SR-55)

Existing Conditions Deficient Highway Facilities	Existing Conditions Plus Proposed Project Impacts	Alternative A With Existing Plus Committed Facilities
FREEWAY RAMPS	I-405 at Sand Canyon (NB Direct On-Ramp)	I-405 (Jamboree to north of SR-55)
I-5 at Culver (SB Off-Ramp)		
I-405 at Jamboree (SB Off-Ramp)	IMPACTED FREEWAY SEGMENTS	
I-405 at MacArthur (SB On-Ramp)	I-5 (Jeffrey to north of SR-55)	
I-405 at MacArthur (NB On-Ramp)		
I-405 at MacArthur (NB Off-Ramp)		
SR-55 at Dyer (SB On-Ramp)		
SR-55 at Dyer (NB Off-Ramp)		
SR-55 at MacArthur (SB Direct On-Ramp)		
SR-55 at MacArthur (NB Direct On-Ramp)		
SR-55 at MacArthur (SB Off-Ramp)		
FREEWAY SEGMENTS		
I-5 (Culver to north of SR-55)		
I-5 (Alton to I-405)		
I-5 (El Toro to La Paz)		
I-405 (MacArthur to SR-133)		
SR-55 (I-5 to SR-73)		

Abbreviations: NB-northbound EB-eastbound
SB-southbound WB-westbound

In addition, a comparison of the impacts of Alternative A may also be made to the Proposed Project's impacts during the phasing years. As discussed in detail in Section 4.3.6.6 of this Draft EIR No. 573, as supplemented, under the Proposed Project phasing years, four intersection locations, two arterial roadway segments, one continuous freeway mainline segment and one freeway ramp would be significantly impacted under Phase 1 conditions (2005), five intersection locations, two arterial roadway segments, one continuous freeway mainline segment and one freeway ramp would be significantly impacted under Phase 2 conditions (2010), and nine intersection locations, two arterial roadway segments, one continuous freeway mainline segment and two freeway ramps would be significantly impacted under Phase 3 conditions (2015). At Phase 4 build out the Proposed Project would result in significant impacts not previously identified to four freeway/tollway mainline segments and four freeway/tollway ramps. See Supplemental Analysis, Section 4.3.6.5. In each case, however, the identified impacts will be mitigated to a level below significant during the applicable phasing year (see Section 4.3.7.2, Table 4.3-20).

8.4.4.4 Noise

Compared to existing conditions, this alternative would create no significant noise impacts at JWA (see Table 8.4-4). Table 8.4-3 shows a land use comparison with noise contours for 1998 military and year 2020 alternatives for El Toro. Also, see Figure 8-3, which depicts noise contours for Alternative A.

The Alternative A 65 CNEL contour line would include 6.6 square miles of land for OCX. For JWA, the numbers are the same as the Proposed Project. The 65 CNEL for the existing military aircraft operations at MCAS El Toro include 6.3 square miles of land. Therefore, Alternative A would increase the area affected by the 65 CNEL surrounding the El Toro site by 0.3 square miles, compared to an increase of 1.5 square miles for the Proposed Project.

The Proposed Project would increase noise sensitive land uses by three churches and one private school compared to existing conditions at the El Toro site (see Table 8.4-3). However, the alternative would avoid these impacts. Therefore, Alternative A would result in no increase in sensitive land uses affected by the 65 CNEL because: 1) County and City policies have restricted incompatible land uses within the much larger (28.81 square mile) MCAS El Toro AICUZ 65 CNEL, 2) the Alternative A 65 CNEL line does not exceed the AICUZ 65 CNEL boundary north of the El Toro site (and, therefore, avoids the impacts of the Proposed Project outside the AICUZ 65 CNEL line), and 3) land use restrictions and noise mitigation programs minimize land use conflicts at JWA.

EIR 563 concluded that a civilian airport at MCAS El Toro would result in significantly greater number of total operations compared to historical military levels of use, both throughout the day and during the nighttime hours. Although the Proposed Project and Alternative A would have significantly fewer operations than the Community Reuse Plan analyzed in EIR 563, the number of forecast civilian operations is still substantially greater at El Toro than the existing conditions level of military operations.

**Table 8.4-3
Land Use Comparison with Noise Contours for 1998 Military and Year 2020 Alternatives for El Toro**

	1998 Military	Proposed Project	Year 2020 Alternatives					No Project
			A	C	H	I	J	
Square Miles Within Contour:								
- 60 to 65 CNEL Contour	16.6	22	15.5	20.4	12.3	13.8	23.2	0
- 65 to 70 CNEL Contour	6.3	9.8	6.6	9.2	5	5.8	12.1	0
- 70+ CNEL Contour	3.0	3.9	2.7	3.6	1.9	2.3	3.8	0
Square Miles Within Contour on Base:								
- 60 to 65 CNEL Contour	6.3	6.4	6	6.2	5.6	5.8	4.4	0
- 65 to 70 CNEL Contour	4.8	4.9	4.5	4.6	3.9	4.2	3.7	0
- inside 70 CNEL Contour	2.9	3.2	2.6	3	1.8	2.3	2.7	0
Square Miles of Residential:								
- 60 to 65 CNEL Contour	0.3	0.7	0.5	0.3	0.15	0.3	1.3	0
- 65 to 70 CNEL Contour	0	0	0	0	0	0	0.2	0
- inside 70 CNEL Contour	0	0	0	0	0	0	0	0
Number of Residences Inside Contour:								
- 60+ CNEL Contour	672	1837	1312	787	394	787	3,411	0
- 65+ CNEL Contour	0	0	0	0	0	0	525	0
- 70+ CNEL Contour	0	0	0	0	0	0	0	0
Number of Public Schools Inside Contour:								
- 60 to 65 CNEL Contour	0	1	0	0	0	0	2	0
- 65 to 70 CNEL Contour	1 on base	0	0	0	0	0	0	0
- inside 70 CNEL Contour	0	0	0	0	0	0	0	0
Number of Private Schools Inside Contour:								
- 60 to 65 CNEL Contour	4	3	3	3	2	2	2	0
- 65 to 70 CNEL Contour	0	1	1	1	0	0	0	0
- inside 70 CNEL Contour	0	0	0	0	0	0	0	0
Number of Colleges Inside Contour:								
- 60 to 65 CNEL Contour	0	0	0	0	0	0	0	0
- 65 to 70 CNEL Contour	0	0	0	0	0	0	0	0
- inside 70 CNEL Contour	0	0	0	0	0	0	0	0
Number of Hospitals Inside Contour:								
- 60 to 65 CNEL Contour	0	0	0	0	0	0	0	0
- 65 to 70 CNEL Contour	0	0	0	0	0	0	0	0
- inside 70 CNEL Contour	0	0	0	0	0	0	0	0
Number of Churches Inside Contour:								
- 60 to 65 CNEL Contour	12	13	13	10	8	12	10	0
- 65 to 70 CNEL Contour	0	3	0	0	0	0	0	0
- inside 70 CNEL Contour	0	0	0	0	0	0	0	0

**Table 8.4-4
Land Use Comparison with Noise Contours for 1998 and Year 2020 Alternatives for John Wayne Airport**

	1998	1985 Master Plan	Proposed Project	Year 2020 Alternatives			No Project
				C	F	G	
Square Miles Within Contour:							
- 60 to 65 CNEL Contour	2.2	4.13	1.8	2.77	2.76	7.4	2.49
- 65 to 70 CNEL Contour	0.75	1.22	0.8	1.07	1.08	3.28	0.98
- 70+ CNEL Contour	0.74	0.99	0.54	0.73	0.69	2.19	0.84
Square Miles of Residential:							
- 60 to 65 CNEL Contour	0.26	0.59	0.22	0.39	0.38	2.65	0.38
- 65 to 70 CNEL Contour	0.04	0.12	0.03	0.09	0.07	0.71	0.09
- inside 70 CNEL Contour	0	0	0	0	0	0.17	0.00
Number of Residences Inside Contour:							
- 60 to 65 CNEL Contour	682	1548	577	1023	997	6954	997
- 65 to 70 CNEL Contour	134	314	79	236	184	1863	236
- inside 70 CNEL Contour	0	0	0	0	0	446	0
Number of Public Schools Inside Contour:							
- 60 to 65 CNEL Contour	0	0	0	0	0	0	0
- 65 to 70 CNEL Contour	0	0	0	0	0	4	0
- inside 70 CNEL Contour	0	0	0	0	0	0	0
Number of Private Schools Inside Contour:							
- 60 to 65 CNEL Contour	0	0	0	0	2	1	0
- 65 to 70 CNEL Contour	0	0	0	0	0	3	0
- inside 70 CNEL Contour	0	0	0	0	0	0	0
Number of Colleges Inside Contour:							
- 60 to 65 CNEL Contour	0	0	0	0	0	0	0
- 65 to 70 CNEL Contour	0	0	0	0	0	0	0
- inside 70 CNEL Contour	0	0	0	0	0	0	0
Number of Hospitals Inside Contour:							
- 60 to 65 CNEL Contour	0	0	0	0	0	0	0
- 65 to 70 CNEL Contour	0	0	0	0	0	0	0
- inside 70 CNEL Contour	0	0	0	0	0	0	0
Number of Churches Inside Contour:							
- 60 to 65 CNEL Contour	2	2	2	2	2	6	1
- 65 to 70 CNEL Contour	0	2	0	0	0	2	1
- inside 70 CNEL Contour	0	0	0	0	0	1	0

As discussed earlier, the CNEL calculation factors in the number of daily operations and assigns a “penalty weighting” to operations occurring during the nighttime hours (10 p.m. to 7 a.m.). However, the substantial increase in the number of operations, particularly during nighttime hours, may be considered a significant impact of Alternative A independent of the CNEL computation.

The noise levels identified for the Proposed Project as well as Alternative A will be considered an annoyance by some residents and nighttime events will cause some sleep disturbance regardless of the levels of significance prescribed by regulatory agencies. Therefore, a mitigation measure for sleep disturbance is proposed in Section 4.4. With this mitigation measure, Alternative A impacts are reduced but remain significant similar to the Proposed Project.

8.4.4.5 Air Quality

Alternative A would result in new significant regional air quality impacts that would be greater in all phasing years than under the Proposed Project’s development scenarios due to the failure of this alternative to meet local demand for air service. This alternative, as with the Proposed Project, may result in similar exceedances of the 1-hour standard for NO₂ projected at both OCX and JWA and the 24-hour PM₁₀ standard at OCX and JWA. Similar to the Proposed Project, Alternative A’s construction emissions impacts would remain significant and unavoidable. Alternative A would also likely result in toxic air contaminant impacts similar to the Proposed Project.

Short-Term (Construction) Impacts

Under this alternative, no significant runway improvements would be made at JWA (ASMP Technical Report 6, *Alternatives Definition Report*, 1999). At the MCAS El Toro site, Runways 16L/34R and 7L/25R would be reconstructed to meet FAA parallel runway separation requirements for operations under visual conditions. Therefore, total construction emissions would be less than those of the Proposed Project; however, peak daily emissions, including both equipment exhaust and fugitive dust, would likely be similar to those of the Proposed Project. Therefore, this alternative would likely result in significant short-term construction impacts that cannot be mitigated below significance.

Operational Air Quality Impacts

Emissions Inventories

Project direct air pollutant emissions associated with airport operations, including aircraft, GSE, energy consumption, and vehicular trips, are shown below in Table 8.4-5 for this alternative. Regional air pollutant emissions, including airport operations at other airports in the region and VMT required for air travel passengers to get to these airports, are shown in Table 8.4-6 for this alternative. Compared to the Proposed Project, Alternative A would serve substantially less Orange County demand for aviation services; therefore, this alternative would result in a higher regional vehicle miles traveled on highways as passengers and cargo travel to other regional airports. This increase in VMT would result in higher regional air quality emissions for this alternative when compared to the Proposed Project. However, this alternative would generate less regional VMT and air quality emissions than the No Project/No Activity Alternative because this alternative would serve more locally generated demand in Orange County.

**Table 8.4-5
Project Direct Air Pollutant Emissions (Pounds/Day) – Phase 4 Alternative A**

	CO	NOx	ROC	SOx	PM ₁₀
Aircraft	10,976.22	10,574.57	912.07	720.08	121.75
OCX	4,864.63	8,579.53	607.54	559.26	89.30
JWA	6,111.59	1,995.04	304.53	160.82	32.45
GSE/APU	17,804.26	1,714.86	531.24	72.44	111.92
OCX	13,360.31	1,200.10	391.14	59.08	89.30
JWA	4,443.95	514.76	140.10	13.36	22.62
Fuel Storage/Dispensing	--	--	65.79	--	--
OCX	--	--	59.28	--	--
JWA	--	--	6.51	--	--
Airport Roadways	429.59	85.98	19.59	5.67	5.61
OCX	345.90	76.03	16.73	4.71	4.78
JWA	83.69	9.95	2.86	0.96	0.83
Airport Parking	331.47	27.79	10.62	9.32	3.10
OCX	263.82	22.61	3.61	7.17	2.90
JWA	67.65	5.18	7.01	2.15	0.20
Energy Consumption	94.20	542.10	5.00	55.60	18.50
OCX	71.60	412.00	3.80	42.30	14.10
JWA	22.60	130.10	1.20	13.30	4.40
Vehicular Traffic	<u>14,838</u>	<u>5,872</u>	<u>1,210</u>	<u>374</u>	<u>2,994</u>
	13,266	5,158	1,900	367	2,611
OCX ²	<u>11,633</u>	<u>4,575</u>	<u>958</u>	<u>295</u>	<u>2,331</u>
	10,061	3,861	848	288	1,948
JWA	3,205	1,297	252	79	663
Total	<u>44,473.79</u>	<u>18,817.30</u>	<u>2,754.31</u>	<u>1,233.11</u>	<u>3,254.88</u>
	42,902	18,103	2,644	1,230	2,872

Source: CH2M Hill and LSA Associates, Inc., 2001

¹ ROC emissions obtained by multiplying HC emissions reported by EDMS by a factor of 1.14.

² SOx emissions are not reported by the URBEMIS7G model.

³ Revised calculation of average trip length. This revision does not impact any of the significance determinations made in connection with the project.

**Table 8.4-6
Regionwide Emissions Inventory Alternative A Phase 4
(Pounds/Day Unless Noted)**

		CO	NO_x	ROC	SO_x	PM₁₀
Aircraft	El Toro	4,864.63	8,579.53	607.54	559.26	89.30
	JWA	6,111.59	1,995.04	304.53	160.82	32.45
	Other Airports	66,830.49	73,354.73	9,753.01	5,589.15	798.25
	<u>Total Regional</u>	<u>77,806.71</u>	<u>83,929.30</u>	<u>10,665.08</u>	<u>6,309.23</u>	<u>920.00</u>
GSE	El Toro	13,360.31	1,200.10	391.14	59.08	89.30
	JWA	4,443.95	514.76	140.10	13.36	22.62
	Other Airports	93,744.51	9,413.56	2,773.67	609.72	345.17
	<u>Total Regional</u>	<u>111,548.77</u>	<u>11,128.42</u>	<u>3,304.91</u>	<u>682.16</u>	<u>457.09</u>
Energy	El Toro	71.60	412.00	3.80	42.30	14.10
	JWA	22.60	130.10	1.20	13.30	4.40
	Others	579.00	3,331.00	31.00	340.90	114.00
	<u>Total Regional</u>	<u>673.20</u>	<u>3,873.10</u>	<u>36.00</u>	<u>396.50</u>	<u>132.50</u>
Fuel	El Toro	--	--	59.28	--	--
	JWA	--	--	6.51	--	--
	Other Airports	--	--	491.24	--	--
	<u>Total Regional</u>	<u>--</u>	<u>--</u>	<u>557.03</u>	<u>--</u>	<u>--</u>
Airport Roadways	El Toro	345.90	76.03	16.73	4.71	4.78
	JWA	83.69	9.95	2.86	0.96	0.83
	Other Airports	3,232.71	656.01	148.75	39.48	53.64
	<u>Total Regional</u>	<u>3,662.30</u>	<u>741.99</u>	<u>168.34</u>	<u>45.15</u>	<u>59.25</u>
Airport Parking	El Toro	263.82	22.61	3.61	7.17	2.90
	JWA	67.65	5.18	7.01	2.15	0.20
	Other Airports	2,020.74	580.44	27.89	53.66	21.18
	<u>Total Regional</u>	<u>2,352.21</u>	<u>608.23</u>	<u>38.51</u>	<u>62.98</u>	<u>24.28</u>
Roads	El Toro ¹	<u>11,633.00</u>	<u>4,575.00</u>	<u>958.00</u>	<u>295.00</u>	<u>2,331.00</u>
		10,061.00	3,861.00	848.00	288.00	1,948.00
	JWA	3,205.00	1,297.00	252.00	79.00	663.00
	Others Airports ²	<u>2,757,679.00</u>	<u>490,576.00</u>	<u>70,624.00</u>	<u>48,634.00</u>	<u>6,821.00</u>
		2,730,639.00	485,975.00	67,491.00	49,000.00	6,984.00
	<u>Total Regional²</u>	<u>2,772,517.00</u>	<u>496,448.00</u>	<u>71,834.00</u>	<u>49,000.00</u>	<u>9,815.00</u>
		2,743,905.00	491,133.00	68,591.00	49,367.00	9,995.00
TOTAL (pounds/day)	<u>2,968,560.19</u>	<u>596,729.04</u>	<u>86,603.87</u>	<u>56,496.02</u>	<u>11,408.12</u>	
	2,939,948.19	591,414.04	83,360.87	56,863.02	11,188.12	
Change from 2020 No Project (pounds/day)	(10,802.41)	(2,864.32)	(974.41)	(394.24)	(11.28)	
	(31,068.41)	(6,585.460)	(3,268.78)	(139.24)	(239.84)	
SCAQMD Threshold for Operation (pounds/day)	550	55	55	150	150	

Source: LSA Associates, Inc., 2001.

¹ Revised calculation of average trip length. This revision does not impact any of the significance determinations made in connection with the project.

² Typographical correction.

Dispersion Analysis

No airport emissions dispersion analysis was conducted for this project alternative. Several local criteria pollutant hot spots for NO₂ and SO₂ were found under the Proposed Project. Although the Proposed Project has higher annual aircraft LTO operations, these local hot spots from aircraft exhaust emissions would also likely occur for Alternative A.

At intersections in the vicinity of the project sites, the CAL3QHC model was used to assess the CO concentrations. Tables 8.4-7 and 8.4-8 show that the 1-hour and 8-hour CO concentrations would be below the State and federal CO standards for Alternative A.

Toxic Air Contaminants

Under this alternative, toxic air contaminant impacts would likely be similar to those identified under the Proposed Project.

8.4.4.6 Topography

Compared to existing conditions, this alternative would have no significant impacts due to JWA operations, but would have impacts at the El Toro site similar to the Proposed Project. With the mitigation measures proposed for the Proposed Project, the impacts of this alternative would be reduced to a level of insignificance. This alternative would not avoid or lessen substantially the impacts of the Proposed Project.

Since development of MCAS El Toro under Alternative A is similar to that described for the Proposed Project, no significant impacts related to topography would occur.

Operation and development of JWA under Alternative A would be similar to the current usage, and would not entail expansion of the airport acreage. Therefore, Alternative A would not raise potential impacts related to topography. The impacts of Alternative A related to topography are slightly fewer than the impacts under the Proposed Project due to fewer grading requirements.

**Table 8.4-7
Phase 4 Alternative A – Predicted One Hour Ambient Carbon Monoxide Concentration for Intersections with the
Highest Volume and Worst Level of Service (LOS)**

INT#	INTERSECTING STREETS	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12
CITY OF ORANGE¹³													
345	Jamboree & Chapman	7.0	7.0	7.2	7.0	7.0	7.2	6.8	7.2	6.8	6.8	6.7	6.7
CITY OF SANTA ANA¹³													
154	MacArthur & Main	7.1	7.2	7.1	7.1	6.8	6.8	6.7	7.1	6.9	7.0	6.7	6.8
152	Main & Sunflower	7.0	7.1	6.7	7.1	6.6	7.0	6.5	6.5	6.7	6.8	7.1	6.8
90	Grand & Edinger	6.9	7.0	7.2	7.3	7.0	7.1	6.7	7.0	6.6	7.0	6.9	6.7
CITY OF TUSTIN¹⁴													
93	Newport & Edinger	7.2	7.1	6.8	7.2	6.7	6.7	6.6	6.7	6.7	7.0	6.6	6.9
115	Von Karman & Barranca	7.0	7.1	7.1	7.0	6.6	7.1	6.7	6.9	6.6	6.6	6.7	6.9
95	Tustin Ranch & Edinger	7.2	7.0	6.9	7.1	6.7	6.9	6.6	6.7	6.9	6.9	6.6	7.0
CITY OF IRVINE¹⁴													
116	Jamboree & Barranca	5.8	6.0	5.6	5.6	5.2	5.5	5.3	5.5	5.5	5.4	5.5	5.8
156	Jamboree & Main	5.6	5.6	5.7	5.4	5.2	5.4	5.3	5.5	5.3	5.3	5.4	5.6
98	Culver & Irvine Center	5.6	5.6	5.7	5.7	5.3	5.4	5.4	5.5	5.3	5.5	5.4	5.5
134	Jamboree & Alton	5.6	5.6	5.7	5.6	5.2	5.5	5.2	5.3	5.3	5.4	5.4	5.7
175	Jamboree & Michelson	5.7	5.4	5.4	5.6	5.1	5.3	5.3	5.3	5.3	5.4	5.4	5.4
151	Red Hill & MacArthur	5.7	5.5	5.5	5.6	5.0	5.4	5.4	5.3	5.3	5.4	5.2	5.7
100	Jeffrey & Irvine Center	5.6	5.5	5.5	5.6	5.3	5.5	5.2	5.2	5.5	5.8	5.1	5.3
321	Access Rd. West & Irvine	5.2	5.2	5.2	5.4	5.1	5.1	5.1	5.2	4.9	4.9	5.1	5.2
320	Perimeter Rd. & Irvine	5.3	5.2	5.2	5.1	4.9	4.9	5.0	5.2	4.8	4.8	5.1	5.1
153	Red Hill & Main	5.5	5.5	5.5	5.6	5.1	5.3	5.2	5.2	5.2	5.2	5.2	5.2
CITY OF LAGUNA BEACH¹⁴													
299	Moulton & El Toro	5.5	5.4	5.5	5.6	5.1	5.3	5.4	5.4	5.0	5.3	5.1	5.1
CITY OF LAGUNA HILLS¹⁴													
280	El Toro & Avd. Carlota	5.4	5.4	5.4	5.3	5.0	5.2	5.0	5.0	5.2	5.2	5.1	5.3
CITY OF LAKE FOREST¹⁴													
271	El Toro & Rockfield	5.6	5.5	5.6	5.5	5.2	5.2	5.2	5.4	5.2	5.3	5.3	5.4

Note: * - Concentrations are in parts per million (ppm)

- 1 - REC1 SW CORNER
- 2 - REC2 SE CORNER
- 3 - REC3 NE CORNER
- 4 - REC4 NW CORNER
- 5 - REC5 S. DEPARTURE - MID BLOCK
- 6 - REC6 N. APPROACH - MID BLOCK
- 7 - REC7 E. DEPARTURE - MID BLOCK
- 8 - REC8 W. APPROACH - MID BLOCK
- 9 - REC9 N. DEPARTURE - MID BLOCK
- 10 - REC10 S. APPROACH - MID BLOCK
- 11 - REC11 W. DEPARTURE - MID BLOCK
- 12 - REC12 E. APPROACH - MID BLOCK

13 - The ambient one-hour CO concentration, 6.1 ppm, obtained by multiplying a rollback factor to the second highest one-hour CO concentration at the nearest air monitoring station, Central Orange County Air Monitoring Station between the years 1996 to 2000, is added to the calculated one hour levels.

14 - The ambient one-hour CO concentration, 4.6 ppm, obtained by multiplying a rollback factor to the second highest one-hour CO concentration at the nearest air monitoring station, Saddleback Valley Air Monitoring Station between the years 1996 to 2001, is added to the calculated one hour levels.

**Table 8.4-8
Phase 4 Alternative A – Predicted Eight Hour Ambient Carbon Monoxide Concentration for Intersections with the
Highest Volume and Worst Level of Service (LOS)**

INT#	INTERSECTING STREETS	REC1 ¹	REC2 ²	REC3 ³	REC4 ⁴	REC5 ⁵	REC6 ⁶	REC7 ⁷	REC8 ⁸	REC9 ⁹	REC10 ¹⁰	REC11 ¹¹	REC12 ¹²
CITY OF ORANGE¹³													
345	Jamboree & Chapman	5.2	5.2	5.4	5.2	5.2	5.4	5.1	5.4	5.1	5.1	5.0	5.0
CITY OF SANTA ANA¹⁴													
154	MacArthur & Main	5.3	5.4	5.3	5.3	5.1	5.1	5.0	5.3	5.2	5.2	5.0	5.1
152	Main & Sunflower	5.2	5.3	5.0	5.3	5.0	5.2	4.9	4.9	5.0	5.1	5.3	5.1
90	Grand & Edinger	5.2	5.2	5.4	5.4	5.2	5.3	5.0	5.2	5.0	5.2	5.2	5.0
CITY OF TUSTIN¹³													
93	Newport & Edinger	5.4	5.3	5.1	5.4	5.0	5.0	5.0	5.0	5.0	5.2	5.0	5.2
115	Von Karman & Barranca	5.2	5.3	5.3	5.2	5.0	5.3	5.0	5.2	5.0	5.0	5.0	5.2
95	Tustin Ranch & Edinger	5.4	5.2	5.2	5.3	5.0	5.2	5.0	5.0	5.2	5.2	5.0	5.2
CITY OF IRVINE¹⁴													
116	Jamboree & Barranca	3.7	3.9	3.6	3.6	3.3	3.5	3.4	3.5	3.5	3.5	3.5	3.7
156	Jamboree & Main	3.6	3.6	3.7	3.5	3.3	3.5	3.4	3.5	3.4	3.4	3.5	3.6
98	Culver & Irvine Center	3.6	3.6	3.7	3.7	3.4	3.5	3.5	3.5	3.4	3.5	3.5	3.5
134	Jamboree & Alton	3.6	3.6	3.7	3.6	3.3	3.5	3.3	3.4	3.4	3.5	3.5	3.7
175	Jamboree & Michelson	3.7	3.5	3.5	3.6	3.3	3.4	3.4	3.4	3.4	3.5	3.5	3.5
151	Red Hill & MacArthur	3.7	3.5	3.5	3.6	3.2	3.5	3.5	3.4	3.4	3.5	3.3	3.7
100	Jeffrey & Irvine Center	3.6	3.5	3.5	3.6	3.4	3.5	3.3	3.3	3.5	3.7	3.3	3.4
321	Access Rd. West & Irvine	3.3	3.3	3.3	3.5	3.3	3.3	3.3	3.3	3.1	3.1	3.3	3.3
320	Perimeter Rd. & Irvine	3.4	3.3	3.3	3.3	3.1	3.1	3.2	3.3	3.0	3.0	3.3	3.3
153	Red Hill & Main	3.5	3.5	3.5	3.6	3.3	3.4	3.3	3.3	3.3	3.3	3.3	3.3
CITY OF LAGUNA BEACH¹⁴													
299	Moulton & El Toro	3.5	3.5	3.5	3.6	3.3	3.4	3.5	3.5	3.2	3.4	3.3	3.3
CITY OF LAGUNA HILLS¹⁴													
280	El Toro & Avd. Carlota	3.5	3.5	3.5	3.4	3.2	3.3	3.2	3.2	3.3	3.3	3.3	3.4
CITY OF LAKE FOREST¹⁴													
271	El Toro & Rockfield	3.6	3.5	3.6	3.5	3.3	3.3	3.3	3.5	3.3	3.4	3.4	3.5

Note: * - Concentrations are in parts per million (ppm)

- 1 - REC1 SW CORNER
- 2 - REC2 SE CORNER
- 3 - REC3 NE CORNER
- 4 - REC4 NW CORNER
- 5 - REC5 S. DEPARTURE - MID BLOCK
- 6 - REC6 N. APPROACH - MID BLOCK
- 7 - REC7 E. DEPARTURE - MID BLOCK
- 8 - REC8 W. APPROACH - MID BLOCK
- 9 - REC9 N. DEPARTURE - MID BLOCK
- 10 - REC10 S. APPROACH - MID BLOCK
- 11 - REC11 W. DEPARTURE - MID BLOCK
- 12 - REC12 E. APPROACH - MID BLOCK

13 - The ambient eight-hour CO concentration, 4.6 ppm, obtained by multiplying a rollback factor to the second highest eight-hour concentration at the nearest air monitoring station, Central Orange County Air Monitoring Station between the years of 1996 to 2000, is added to the product of the calculated one-hour levels multiplied by a persistent factor of 0.7.

14 - The ambient eight-hour CO concentration, 2.9 ppm, obtained by multiplying a rollback factor to the second highest eight-hour concentration at the nearest air monitoring station, Saddleback Valley Air Monitoring Station between the years of 1996 to 2000, is added to the product of the calculated one-hour levels multiplied by a persistent factor of 0.7.

8.4.4.7 Soils, Geology and Seismicity

Compared to existing conditions, this alternative would have no significant impacts due to operations at JWA, but would have impacts due to development at the El Toro site similar to the Proposed Project. With the mitigation measures proposed for the Proposed Project, the impacts of this alternative would be reduced to a level of insignificance.

Development of MCAS El Toro under Alternative A is similar to that described for the Proposed Project, and does not significantly differ in its impacts related to soils or local geologic features. Alternative A also does not entail additional risk based on projected earthquake events beyond those discussed for the Proposed Project. The impacts of Alternative A related to seismicity are the same as the impacts under the Proposed Project.

Operation and development of JWA under Alternative A would be similar to the current usage, and would not entail expansion of the airport acreage. Therefore, Alternative A would not raise impacts related to soils, geologic features or seismicity.

The impacts of Alternative A related to soils, geology and seismicity would be the same as under the Proposed Project, and this alternative would not avoid or lessen substantially the impacts of the project.

8.4.4.8 Hydrology and Water Quality

Compared to existing conditions, this alternative would have no significant impacts due to operations at JWA, but would have impacts due to development at the El Toro site similar to the Proposed Project. With the mitigation measures proposed for the project, the impacts would be reduced to a level of insignificance. As discussed in Section 4.8 (Hydrology and Water Quality), the Proposed Project will not result in significant adverse impacts related to drainage and surface water quality. Because most issues related to drainage at the MCAS El Toro site can be addressed adequately through proper design and engineering, it is anticipated that Alternative A could also be developed for use as a civilian airport without significant adverse impacts related to drainage. Similarly, as discussed in Section 4.8, operations can be conducted and controls implemented to minimize potential adverse impacts related to surface water quality under Alternative A. Consequently, development of Alternative A would not result in significant impacts related to surface water quality.

No groundwater will be pumped from the MCAS El Toro site under this alternative so there will be no impacts to local groundwater levels or basin storage under this alternative. Groundwater quality impacts under this alternative will be the same as those discussed for the Proposed Project in Section 4.8. As with the Proposed Project, no hazardous waste remediation activities at the MCAS El Toro site are a component of this alternative. Therefore, this alternative will result in no significant adverse impacts related to groundwater.

Under this alternative, JWA will have a lower MAP level compared with current operations and therefore will require no major construction. Therefore, this alternative will not result in impacts related to hydrology and water quality beyond existing conditions at JWA.

In summary, the hydrology and water quality impacts of Alternative A will be similar to the level of impacts under the Proposed Project, and this alternative would not avoid or lessen substantially the impacts of the project.

8.4.4.9 Biological Resources

When compared to existing conditions, this alternative would have no significant impacts due to operations at JWA, but would have impacts due to development of the El Toro site similar to the Proposed Project. With the mitigation measures proposed for the Proposed Project, the impacts of this alternative would be reduced to a level of insignificance. However, this alternative would not avoid or lessen the impacts of the Proposed Project.

The aviation land use and airfield component for the MCAS El Toro site and the corresponding nonaviation component under this alternative are very similar to those under the Proposed Project. The only substantive difference between Alternative A and the Proposed Project is that there are no plans for a runway extension under Alternative A. However, since the extension results in impacts to non-native or ruderal grassland, the difference in biological resource impacts are not significantly different for direct impacts (i.e. native plant communities, wildlife, wildlife dispersion corridors and special interest species). For indirect impacts, the biological resource impacts under Alternative A are not substantially different than for the Proposed Project. However, there is one identifiable indirect impact that is expected to be different and that is noise exposure to biological resources. For Alternative A, the CNEL noise contour is substantially shorter to the north. The CNEL noise contour differences to the east and the Habitat Reserve, and to the south and the San Joaquin Hills are not substantially different. SEL values are not expected to be substantially different from the Proposed Project. The shorter CNEL noise contours to the north reflect a lower average noise level from aircraft overflights at Siphon Ridge as compared to the Proposed Project. Although, this is an improvement from the Proposed Project, it is not anticipated to result in a substantially different level of biological productivity in the Siphon Ridge area. This alternative would have impacts similar to the Proposed Project on wetlands and Waters of the U.S. With the mitigation measures recommended for the project, the impacts of this alternative would be reduced to a level of insignificance.

This alternative will not result in significant adverse impacts to native plant communities, wildlife dispersion corridors, or special interest species at JWA or Upper Newport Bay. There are no substantive biological resources on the JWA site, and impacts to the Upper Newport Bay are limited to indirect impacts as a result of aircraft operations, which are less than the Proposed Project.

8.4.4.10 Public Services and Utilities

Compared to existing conditions, this alternative would have no significant impacts due to operations at JWA, but would have impacts due to development at the El Toro site similar to the Proposed Project. With the mitigation measures proposed for the Proposed Project, the impacts of this alternative would be reduced to a level of insignificance. This alternative would not avoid or lessen substantially the impacts of the Proposed Project.

Redevelopment of MCAS El Toro under Alternative A is similar to that of the Proposed Project, no significant unmitigated impacts related to public services would occur. The same conclusions are made for JWA, which will remain status quo for this alternative.

As described in Section 4.10 (Public Services and Utilities), the Proposed Project would not result in significant unmitigated adverse impacts related to utilities. Alternative A could be served with utilities without significant adverse impacts after mitigation, similar to conditions under the Proposed Project.

8.4.4.11 Natural Resources and Energy

Compared to existing conditions, this alternative would have no significant impacts due to operations at JWA, but would have significant impacts at the El Toro site similar to the Proposed Project. With the mitigation measures proposed for the Proposed Project, the impacts of this alternative would be reduced to a level of insignificance except for impacts to Agricultural Resources, which would remain significant after mitigation. This alternative would lessen the impacts on Prime Agricultural Soils by up to 440 acres compared to the Proposed Project. However, impacts would remain significant and unavoidable.

The land use/airfield component and nonaviation land use component for this alternative are similar to those of the Proposed Project. The primary exception is that no runway extensions are planned at the MCAS El Toro site under this alternative. As discussed in Section 4.11 (Natural Resources and Energy), the Proposed Project will not result in significant adverse impacts related to natural resources and energy, with the exception of unmitigatable significant impacts to agricultural resources on the MCAS El Toro site.

There are no agricultural resources existing at JWA; therefore, no impacts at JWA would result from this alternative.

8.4.4.12 Aesthetics, Light and Glare

Compared to existing conditions, this alternative would have no significant impacts due to operations at JWA, but would have impacts due to construction and operations at the MCAS El Toro site similar to the Proposed Project. With the mitigation measures proposed for the Proposed Project, the aesthetic, light, and glare impacts of this alternative would be reduced

to a level of insignificance. This alternative would not avoid or substantially lessen the impacts of the Proposed Project.

The design of the facilities for Alternative A is similar to that of the Proposed Project, with an insignificant reduction of the size of the terminal, number of gates, and ancillary aviation support facilities. The Nonaviation Revenue Support uses would consist of the same facilities as proposed with the project, although the acreages for agricultural and passive open space would be larger by approximately 440 acres due to the reduced size of the airport facilities needed to serve 19 MAP. The overall appearance of the MCAS El Toro site, including the airport facilities (runways, terminal, cargo buildings, parking structures, etc.) and Nonaviation Revenue Support uses (regional park, golf courses, office/commercial and cultural and institutional buildings) would be similar to the appearance of the Proposed Project. Views of the MCAS El Toro site from the vantage points described in Section 4.12 would not differ substantially from the views created by the development of the Proposed Project. In that there is less development and more open space/green space on the site due to the less intense commercial passenger service plan under Alternative A, this alternative would have slightly less visual change than those of the Proposed Project; however, the reduction would be insignificant.

The impacts of light and glare at the MCAS El Toro site under this alternative would approximate those of the Proposed Project.

At JWA, Alternative A would slightly reduce the commercial service level from the existing level and, therefore, any visual changes caused by either the Proposed Project or Alternative A would be slightly less than existing conditions. Potential light and glare at JWA would be similar to that of the Proposed Project; no substantive change in this effect would occur.

8.4.4.13 Cultural Resources

Compared to existing conditions, this alternative would have no effect on cultural resources at JWA, but would have impacts due to development at the MCAS El Toro site similar to the Proposed Project. This alternative would not avoid or substantially lessen the impacts of the Proposed Project.

The physical effects of this alternative on cultural resources at MCAS El Toro would be approximately the same as with the Proposed Project. As the cultural resources within the disturbance area (construction and operations) are not considered significant (SHPO concurrence pending), no significant impacts would be caused by this alternative, as with the Proposed Project.

Under Alternative A, there would be no additional or new effects on cultural resources at JWA since there is no known archaeological, paleontological or historic resources on the already developed airport property.

8.4.4.14 Recreation

Compared to existing conditions, this alternative would have fewer impacts from operations at JWA, because the primary project development would take place at the MCAS El Toro site. Alternative A would have impacts due to development at the MCAS El Toro site similar to the Proposed Project. With the mitigation measures proposed for the Proposed Project, the impacts of this alternative would be reduced to a level of insignificance. This alternative would not avoid or substantially lessen impacts of the Proposed Project.

Alternative A would have approximately the same effects related to recreational resources in the MCAS El Toro area as the Proposed Project. The physical boundaries of construction with Alternative A would be, for all practical purposes, the same as that of the Proposed Project. Therefore, no adjacent off-road trails would be physically impacted with Alternative A. Development at the MCAS El Toro site under Alternative A would have the same effect regarding consistency with County and City General Plan Recreational policies, goals and objectives, in that nonaviation land uses would be included on-site similar to the Proposed Project. In addition, Alternative A would not differ from the project in that it would not exceed Thresholds of Significance 2 and 3 in Section 4.14.

Noise impacts at MCAS El Toro under Alternative A would be reduced from those of the Proposed Project because the noise contours would be reduced. Existing recreational facilities and planned future facilities in the 65 dB CNEL contour for Alternative A would include approximately the same facilities as the project contour, with the potential for the use of fewer facilities or smaller portions of the same facilities to be affected. The overall noise impact on the use of area recreational facilities would be similar to the impacts of the Proposed Project, given that the alternative calls for the same type of uses on the site, at a reduced intensity (28.8 MAP for the project, 19 MAP for Alternative A).

The physical effects on area recreational facilities in the JWA area under Alternative A would be approximately the same as under the Proposed Project. Similarly, no significant differences in noise effects on public use of area recreational facilities would occur in that the 65 dB CNEL noise contour for JWA in Alternative A would be approximately the same.

8.4.4.15 Public Health and Safety

Compared to existing conditions, the overall potential for accidents is greater with this alternative. The increase in accident potential is not deemed to be significant as an extraordinary risk is not created. This alternative would not avoid or substantially lessen impacts of the Proposed Project.

Aviation Safety

Compared to the Proposed Project, there would be an increase of approximately 7,600 air carrier and air cargo operations and a decrease of approximately 2,000 general aviation

operations at JWA. Under this scenario, the potential air carrier and air cargo accident risks at JWA would increase by approximately 11.3% to reflect the number of increasing aviation activity diverted from OCX to JWA and the potential accident risks for general aviation at JWA would slightly decrease by 0.6% correspondingly. At OCX, there would be an estimated decrease of 59,100 air carrier and air cargo operations and an estimated increase of 11,000 general aviation operations. Under this condition, the potential air carrier and air cargo accident risks at OCX would decrease by approximately 21.3% to reflect the fewer number of operations at OCX. The potential general aviation risks at OCX would increase by 50.0% correspondingly. Compared to the Proposed Project relative to on-airport and off-airport fatal accidents per million operations, there would be no significant adverse impacts related to aviation safety at the MCAS El Toro site or at JWA.

Compared to the existing conditions, there would be a decrease of approximately 14,908 air carrier and air cargo operations and an increase of approximately 29,376 general aviation operations at JWA. Under this scenario, the potential air carrier and air cargo accident risks at JWA would decrease by approximately 16.6% to reflect the number of decreasing operations and the potential general aviation accident risks would increase by 9.0% correspondingly. Compared to the existing conditions, there would be no significant adverse impacts related to aviation safety at JWA.

8.4.4.16 Hazardous Materials and Hazardous Wastes

Compared to existing conditions, this alternative would have no significant impacts due to operations at JWA, but would have impacts due to development at the El Toro site similar to the Proposed Project. With mitigation measures, the impacts of this alternative would be reduced to a level of insignificance. This alternative would not avoid or substantially lessen the impacts of the Proposed Project.

Implementation of Alternative A would result in impacts related to hazardous wastes approximately the same as under the Proposed Project. This alternative would not alter remedial investigations, response actions or environmental risks associated with any hazardous waste sites on the MCAS El Toro and JWA sites.

Any use of hazardous materials and/or generation of hazardous waste under Alternative A would be regulated by applicable State law, federal law, and regulations pertaining to worker protection, hazardous materials storage and use, and hazardous waste generation and disposal. Implementation of these regulations will reduce potential impacts associated with the presence of these hazardous substances to below a level of significance.

The impacts of Alternative A related to hazardous materials and hazardous wastes are approximately the same as the impacts under the Proposed Project.

8.4.4.17 Socioeconomics

Under this alternative, a total of 22,900 jobs would be generated, including 19,200 at MCAS El Toro and 3,700 at JWA, representing a net increase of 16,500 jobs at MCAS El Toro and 1,600 jobs at JWA over existing 1998 conditions. The distribution of jobs between MCAS El Toro and JWA differs under this alternative compared to the Proposed Project. There would be fewer jobs generated at the MCAS El Toro site under Alternative A than under the Proposed Project. Employment at JWA would be marginally higher under Alternative A than under the Proposed Project.

As with the Proposed Project, economic activity at the El Toro site and JWA site, as well as expenditures by visitors arriving by air through the two airports, would stimulate additional off-site job growth. Given the lower number of on-site jobs and air passengers served by this alternative, the number of off-site jobs stimulated by the airport system would be significantly lower than the level under the Proposed Project.

Given the lower number of jobs generated under Alternative A compared to the Proposed Project, the magnitude of impacts related to inducing substantial growth or concentration of employment, and demand for housing, including low and moderate income housing, would be lower than under the Proposed Project. The employment projections under Alternative A would also be inconsistent with the adopted regional forecasts, as under the Proposed Project.

In summary, this alternative would not avoid or substantially lessen the impacts of the Proposed Project.

8.4.4.18 Risk of Upset

Compared to existing conditions, this alternative would have no significant impacts due to operations at JWA, but would have impacts due to development at the El Toro site similar to the Proposed Project. With the mitigation measures proposed for the Proposed Project, the impacts of this alternative would be reduced to a level of insignificance. This alternative would not avoid or substantially lessen the impacts of the project.

As discussed in Section 4.18 (Risk of Upset), the Proposed Project would not result in significant adverse impacts to public health and safety resulting from project-related risk of upset conditions. The ultimate build out and phased development of this alternative will entail a lower level of operations than the Proposed Project, with a commensurate lower level of risk of upset potential associated with jet fuel storage and delivery. Consequently, implementation of this alternative would not result in significant adverse impacts to public health and safety.

8.4.5 Feasibility

In summary, this alternative, which is very similar to the Proposed Project, would have the same development and environmental feasibility. However, this alternative would have slightly lower development cost due to the reduced extent of terminal and related aviation facilities, and lower revenues due to reduced aviation use.

8.4.6 Conclusions

Alternative A would reduce the area affected by the 65 dB CNEL for OCX, and would reduce traffic, and loss of agricultural soils impacts compared to the Proposed Project. This alternative would have greater regional air quality impacts due to increased regional traffic to airports meeting the County's unmet air service demand.

In conclusion, Alternative A:

- Does not meet the County's future demand for aviation services, especially international service. This would have an adverse impact on trade, business, tourism, jobs, and other economic activity in the County.
- Would result in higher regional VMT and regional air quality emissions as passengers and cargo travel from Orange County to LAX or other airports.
- Since the 65 dB CNEL for LAX and other airports (which would serve the County's unmet aviation demand) already include large numbers of noise sensitive populations/developments, this alternative would increase the adverse effects of aviation noise on a regional basis.
- Would generate fewer on-site and off-site jobs than the Proposed Project.
- Would not result in a significant reduction in project impacts (after mitigation), and would not avoid project impacts that cannot be reduced to a level of insignificance, including short-term construction air quality impacts, local air quality impacts due to aircraft and associated operations, and toxic air contaminant impacts.

8.5 ALTERNATIVE C: JWA – SHORT-HAUL; OCX – MEDIUM-HAUL TO FULL INTERNATIONAL (LINKED) AIR SERVICE

This section presents the potential impacts of Alternative C as measured against the existing setting, as well as a comparison of the alternative's impacts to those of the Proposed Project at build out. In those instances in which the comparison of the alternative to the Proposed Project is materially affected by the phasing of the project, i.e., in those instances in which the impacts of the Proposed Project during the phasing years are materially different from those impacts at year 2020, a comparison of the alternative's impacts to those of the Proposed Project for the applicable phasing year is also provided.

This alternative was selected for analysis because it has the potential to lessen aircraft noise, traffic, and local air quality emissions at OCX while still feasibly attaining most of the objectives of the Proposed Project. The Notice of Preparation (NOP) identified this alternative and the Proposed Project as preferred projects to be analyzed in the Draft EIR. However, the analysis of this option determined that this alternative is infeasible due to costs as described below. Therefore, this plan is analyzed as an alternative that was considered.

8.5.1 Aviation Uses

Under this alternative, JWA and OCX would ultimately (year 2020) be linked by an airport-to-airport connector such as a light rail system that would allow the two airports to function as one for connecting passengers. Without this connector, market segmentation between the two airports is not feasible. The market roles of the two airports would include regulatory perimeter rules defining their respective permitted roles. Under Alternative C, OCX provides long-haul domestic and international air passenger service for an estimated 23.4 MAP, 22 percent (5.1 MAP) of which are passengers with connecting flights (45 percent of these connecting passengers transfer between JWA and OCX via the transit facility that is proposed to link the two airports). OCX is also forecast to annually handle approximately 0.84 million tons of international cargo and 1.18 million tons of domestic cargo. The 2020 service level at JWA under this alternative would be 10.1 MAP. This alternative includes a proposed on-airport 500-room hotel in the OCX terminal area. JWA would serve general aviation activity and short-haul passengers. The runway improvements at OCX would be the same as under the Proposed Project. Figure 8-4 depicts Alternative C.

8.5.2 Nonaviation Revenue Support Uses

Nonaviation land uses proposed under Alternative C are the same as assumed for the Proposed Project.

8.5.3 Attainment of Project Objectives

This alternative meets the general project objectives for base reuses except to optimize cost/revenues, as well as the aviation related objectives. However, the very high costs/passenger for the JWA/OCX transit connector would result in an infeasible project.

8.5.4 Environmental Impacts of Alternative C

8.5.4.1 Land Use

Compared to existing conditions, this alternative would have greater land use impacts at JWA and slightly less impact at the El Toro site than the Proposed Project. With the mitigation measures proposed for the Proposed Project and additional mitigation related to noise impacted land uses around JWA, the impacts of this alternative could be reduced to a level of insignificance. This alternative would not avoid or substantially lessen the impacts of the project.

Compared to the Proposed Project, the primary difference is that Alternative C includes an airport-to-airport transit connector. The selected option was a fully elevated fixed-guideway system from OCX along SR-133 to I-405, along the I-405 right-of-way to MacArthur Boulevard, and then to JWA. The land use impacts of this alternative were found to be low, with the assumption that a large portion of the system can be provided within existing right-of-way.

Uses along the perimeter of OCX are generally comparable in intensity or less intense than the existing and planned adjacent off-site uses. Therefore, as with the Proposed Project, there are no significant land use conflicts associated with the proposed land uses under this alternative. The elevated nature of the airport connector means that it will be visually prominent, and the connector would be expected to generate noise and vibration effects on adjacent land uses.

The on-site agricultural uses preserved under this alternative will be the same as is preserved with the Proposed Project. As with the Proposed Project, the agriculture impacts that might occur can be controlled through agricultural management practices and through the terms of the County's lease agreements.

The proposed airport use at MCAS El Toro under Alternative C will attract new development in nearby areas. There is a potential for undesirable land use development (such as sexually oriented businesses) in the vicinity of the site, unless the County and adjacent cities have adequate land use controls in place. Also, the design of future off-site development may adversely affect existing and planned development in the adjacent jurisdictions if appropriate design standards are not implemented by the local jurisdictions. This potential impact is the same under both Alternative C and the Proposed Project.

Although the JWA aviation activity under Alternative C is higher than the Proposed Project, major future aviation and terminal improvements would be limited since the existing facility was designed to accommodate 10.1 MAP. Also, future improvements under Alternative C would take place within the existing boundaries of the airport. This alternative would create a JWA 65 CNEL noise contour, which would be larger than the Proposed Project (see noise analysis below). With the current JWA noise mitigation program, these impacts would be reduced to a level of insignificance.

The impacts of Alternative C related to land use are generally comparable to the impacts under the Proposed Project at El Toro. The airport-to-airport connector proposed under Alternative C would have aesthetic, noise, and vibration impacts on adjacent uses. However, these impacts would be principally limited to the adjacent freeway or highway right-of-way. The land use impacts around JWA due to a larger 65 CNEL noise contour would be greater than the Proposed Project, which has a 65 CNEL contour smaller than that existing today.

8.5.4.2 General Plan Consistency

Compared to existing conditions, this alternative would have greater impacts at JWA and slightly less impact at the El Toro site than the Proposed Project. With the mitigation measures proposed for the Proposed Project, the impacts of this alternative would be reduced to a level of insignificance. This alternative would not avoid or substantially lessen the Proposed Project impacts.

Alternative C introduces a civilian aviation use to MCAS El Toro and modifies existing aviation activity conditions at JWA; therefore, as with the Proposed Project, an amendment to the AELUP is required. An amendment to the Orange County General Plan Land Use Element map is needed for this alternative, to address the conflicts with proposed land uses in Planning Area 5, and to redesignate the Open Space portion at the south end of JWA to Public Facilities. The adopted 65 dB CNEL noise contour policy implementation line would change at El Toro as a result of this alternative, therefore, an amendment to the Orange County General Plan Noise Element would be required. Alternative C includes land uses which conflict with the adopted City of Irvine General Plan for Planning Area 7 (City of Irvine Planning Area 30). An amendment to the City of Irvine General Plan would not be required since the site would be owned by the County. The need for amendments to General Plans and the AELUP for Alternative C are comparable to those required for the Proposed Project, therefore; the General Plan consistency impacts for Alternative C are similar to the Proposed Project.

8.5.4.3 Transportation and Circulation

Compared to existing conditions, this alternative would have greater impacts at JWA and slightly less impact at the El Toro site than the Proposed Project. With the project alternative mitigation measures, the impacts of this alternative would be reduced to a level of

insignificance. This alternative would not avoid or substantially lessen the impacts of the project.

The AM and PM peak hour and ADT trips generated by the aviation operations at JWA and OCX and by nonaviation revenue support land uses with build out of Alternative C are summarized in Table 8.5-1. Refer to Section 10.0 in the 1999 Traffic Analysis Technical Report for detailed information on the methodology used to produce trip generation estimates for Alternative C. This alternative would generate an increase of 126,873 ADT at the El Toro site compared to an increase of 150,723 ADT for the Proposed Project over existing conditions. The alternative would generate 152,967 ADT less than the CRP. At JWA, this alternative would generate 1,426 ADT more than existing conditions. For a comparison of peak hour trip generation, see Table 4.3-8. In summary, this alternative would substantially reduce the number of vehicle trips generated at the El Toro site compared to the Proposed Project. However, after mitigation measures are applied, the Proposed Project and this alternative would have no significant adverse impacts.

**Table 8.5-1
Trip Generation Summary – Alternative C**

Project Component	AM Peak Hour			PM Peak Hour			ADT	Existing ADT
	In	Out	Total	In	Out	Total		
Former MCAS El Toro Site								
OCX Commercial Air Terminal	2,771	1,847	4,618	2,786	2,747	5,533	91,751	
OCX Air Cargo Handling Facility	565	707	1,272	790	513	1,303	17,503	
Nonaviation Revenue Support Land Uses							43,019	
Sub-Total (El Toro Site)	7,028	3,282	10,310	4,565	6,833	11,398	152,273	25,400
JWA	1,468	982	2,450	1,930	1,931	3,861	48,876	47,450
TOTAL	8,496	4,264	12,760	6,495	8,764	15,259	201,149	72,850

The on-site and site access circulation plans assumed for JWA and OCX in Alternative C are the same as those described in Section 4.3 (Transportation and Circulation) for the Proposed Project. Peak hour levels of service with and without Alternative C were compared in order to identify the locations on the existing plus committed circulation system that require project related improvements to mitigate the traffic impacts of Alternative C and other foreseeable growth or development. Table 8.5-2 compares, in summary, the Alternative C highway impacts to the existing conditions and existing conditions plus Proposed Project. As discussed in Section 4.3.6.5, there is minimal comparison between the existing conditions plus Proposed Project versus the Alternative C impacts due to highway improvements recently completed and the effects of committed highway improvements.

**Table 8.5-2
Summary Comparison of Traffic Impacts for Alternative C to
Existing Conditions and Existing Conditions Plus Project**

Existing Conditions Deficient Highway Facilities	Existing Conditions Plus Proposed Project Impacts	Alternative C With Existing Plus Committed Facilities
Location	Location	Location
INTERSECTIONS	IMPACTED INTERSECTION	IMPACTED INTERSECTIONS
Newport (NB) & Del Mar	Bake & Portola	Main & Sunflower
El Toro & SR-73 NB Ramps	Sand Canyon & Trabuco	ETC East Leg NB & Irvine
Campus & N. Bristol	Bake & I-5/I-405 SB Ramps	Sand Canyon & Irvine
Jamboree (SB) & Walnut	Bake & Rockfield	Sand Canyon & Trabuco
Jamboree & I-405 NB Ramps	Jeffrey & Alton	Jeffrey & Irvine
Jeffrey & I-405 NB Ramps	Jeffrey & I-405 NB Ramps	Jeffrey & Trabuco
Red Hill & MacArthur	Jeffrey & I-405 SB Ramps	MacArthur & Main
Irvine Center & Lake Forest	Jeffrey & Walnut/I-5 SB	Red Hill & Main
Bake & Jeronimo	Sand Canyon & I-5 NB Ramps	Sand Canyon & I-5 NB Ramps
El Toro & Avd Carlota	Sand Canyon & I-5 SB Ramps	Sand Canyon & I-5 SB Ramps
La Paz & Cabot/I-5 SB	Irvine Center & Lake Forest	MacArthur & Campus
Los Alisos & Muirlands	Bake & Irvine/Trabuco	Alicia & Paseo Valencia
Alicia & Jeronimo	Bake & Toledo	El Toro & Rockfield
Alicia & Muirlands	Los Alisos & Muirlands	Alicia & Jeronimo
La Paz & Muirlands/I-5 NB	Alicia & Jeronimo	Red Hill & I-5 NB Ramps
Red Hill & Edinger	Newport & Old Irvine	
Red Hill & Sycamore		IMPACTED ARTERIAL ROADS
Red Hill & Walnut	IMPACTED ARTERIAL ROADS	Irvine (ETC East Leg to PA-2 West Access Road)
	Laguna Canyon (I-405 to SJHTC)	Irvine (Jeffrey to Sand Canyon)
ARTERIAL ROADWAYS	Laguna Canyon (south of El Toro)	Laguna Canyon (south of El Toro)
Portola (Sand Canyon to Foothill Toll Road)	Culver (Bryan to Trabuco)	
Laguna Canyon (I-405 to SR-73)		IMPACTED FREEWAY/ TOLLWAY RAMPS
Laguna Canyon (south of El Toro)	IMPACTED FREEWAY RAMPS	FTC (SR-241) at Portola East (NB Off-Ramp)
Culver (Bryan to Trabuco)	I-5 at Culver (SB Off-Ramp)	I-5 at Alton (NB Direct On-Ramp)
Michelson (Carlson to Harvard)	I-5 at Sand Canyon (NB On-Ramp)	I-5 at Jamboree (NB Off-Ramp)
	I-5 at Sand Canyon (SB Off-Ramp)	I-5 at La Paz (SB Off-Ramp)

Existing Conditions Deficient Highway Facilities	Existing Conditions Plus Proposed Project Impacts	Alternative C With Existing Plus Committed Facilities
FREEWAY RAMPS	I-405 at Sand Canyon (NB Direct On-Ramp)	I-5 at Red Hill (SB On-Ramp)
I-5 at Culver (SB Off-Ramp)		I-5 at Sand Canyon (SB Off-Ramp)
I-405 at Jamboree (SB Off-Ramp)	IMPACTED FREEWAY SEGMENTS	I-405 at Sand Canyon (NB Direct On-Ramp)
I-405 at MacArthur (SB On-Ramp)	I-5 (Jeffrey to north of SR-55)	
I-405 at MacArthur (NB On-Ramp)		IMPACTED FREEWAY/ TOLLWAY SEGMENTS
I-405 at MacArthur (NB Off-Ramp)		FTC (Alton to south of Portola East)
SR-55 at Dyer (SB On-Ramp)		I-5 (I-405 to north of SR-55)
SR-55 at Dyer (NB Off-Ramp)		I-405 (Jamboree to SR-55)
SR-55 at MacArthur (SB Direct On-Ramp)		
SR-55 at MacArthur (NB Direct On-Ramp)		
SR-55 at MacArthur (SB Off-Ramp)		
FREEWAY SEGMENTS		
I-5 (Culver to north of SR-55)		
I-5 (Alton to I-405)		
I-5 (El Toro to La Paz)		
I-405 (MacArthur to SR-133)		
SR-55 (I-5 to SR-73)		

Abbreviations: NB-northbound EB-eastbound
SB-southbound WB-westbound

Table 8.5-3 summarizes the intersection locations, arterial roads and freeway ramps which are significantly impacted by Alternative C at build out (refer to Section 10.0 in the Traffic Analysis Technical Report for detailed summaries of the Alternative C traffic volumes and level of service (LOS) and comparisons between existing plus committed conditions with and without Alternative C) for intersections and arterial roadways within the traffic analysis study area, and refer to Section 10.0 in the 2001 Traffic Analysis Technical Report Addendum for comparable information for freeway/tollway mainline segments and freeway/tollway ramps within the traffic analysis study area).

**Table 8.5-3
Alternative C Impact Summary**

Location	Jurisdiction	Location	Jurisdiction
IMPACTED INTERSECTIONS			
Main & Sunflower	Costa Mesa/ Santa Ana	Sand Canyon & I-5 NB Ramps	Irvine
ETC East Leg NB & Irvine	County	Sand Canyon & I-5 SB Ramps	Irvine
Sand Canyon & Irvine	County	MacArthur & Campus	Irvine/ Newport Beach
Sand Canyon & Trabuco	County	Alicia & Paseo Valencia	Laguna Hills
Jeffrey & Irvine	County/Irvine	El Toro & Rockfield	Lake Forest
Jeffrey & Trabuco	County/Irvine	Alicia & Jeronimo	Mission Viejo
MacArthur & Main	Irvine	Red Hill & I-5 NB Ramps	Tustin
Red Hill & Main	Irvine		
IMPACTED ARTERIAL ROADS			
Irvine (ETC East Leg to PA-2 West Access Rd)	County	Laguna Canyon (south of El Toro)	County/ Laguna Beach
Irvine (Jeffrey to Sand Canyon)	County		
IMPACTED FREEWAY/TOLLWAY SEGMENTS			
FTC (Alton to south of Portola East)	Caltrans/TCA	I-405 (Jamboree to SR-55)	Caltrans
I-5 (I-405 to north of SR-55)	Caltrans		
IMPACTED FREEWAY/TOLLWAY RAMPS			
I-5 at Alton (NB Direct On-Ramp)	Caltrans/Irvine	I-5 at La Paz (SB Off-Ramp)	Caltrans/ Laguna Hills
I-5 at Jamboree (NB Off-Ramp)	Caltrans/Irvine	FTC (SR-241) at Portola East (NB Off-Ramp)	Caltrans/TCA/ Lake Forest
I-5 at Sand Canyon (SB Off-Ramp)	Caltrans/Irvine	I-5 at Red Hill (SB On-Ramp)	Caltrans/Tustin
I-405 at Sand Canyon (NB Direct On-Ramp)	Caltrans/Irvine		

A comparison of Alternative C to the Proposed Project during the phasing years may also be made. As discussed in detail in Section 4.3.6.6 of this Draft EIR No. 573, as supplemented, under the Proposed Project phasing years, four intersection locations, two arterial roadway segments, one continuous freeway mainline segment and one freeway ramp would be significantly impacted under Phase 1 conditions (2005), five intersection locations, two arterial roadway segments, one continuous freeway mainline segment and one freeway ramp would be significantly impacted under Phase 2 conditions (2010), and nine intersection

locations, two arterial roadway segments, one continuous freeway mainline segment and two freeway ramps would be significantly impacted under Phase 3 conditions (2015). At Phase 4 build out, the Proposed Project would result in significant impacts not previously identified to four freeway/tollway mainline segments and four freeway/tollway ramps. See Draft Supplemental Analysis, Section 4.3.6.5. In each case, however, the identified impacts will be mitigated to a level below significant during the applicable phasing year (see Section 4.3.7.2, Table 4.3-20).

8.5.4.4 Noise

Compared to existing conditions, Alternative C would create a greater noise impact at JWA than currently exists because of the forecast increase in use of the airport under this alternative. Alternative C would increase the 60 and 65 CNEL John Wayne Airport contours somewhat but not to the extent where they exceed those of the 1985 Master Plan contours (EIR No. 508). Table 8.4-3 shows a land use comparisons between noise contours for 1998 military and year 2020 alternatives for El Toro, and Table 8.4-4 shows land use comparisons between noise contours for 1998 and year 2020 alternatives for John Wayne Airport. The number of residences inside the 60 to 65 dB CNEL contour at JWA is 1,023 compared to the Proposed Project level of 577 and the 1998 existing condition of 682. The number of residences inside the 65 dB CNEL contours for those three scenarios is 236, 79, and 134, respectively. Figure 8-5 illustrates noise contours for Alternative C at El Toro. This alternative would not avoid or substantially lessen the impacts of the project.

The Alternative C 65 CNEL contour line would include 9.2 square miles of land for OCX and 1.07 square miles of land for JWA. The 65 CNEL for the existing military aircraft operations at MCAS El Toro include 6.3 square miles of land and for JWA, the existing conditions include 0.75 square miles of land. Therefore, Alternative C would increase the area affected by the 65 CNEL surrounding the El Toro site by 2.9 square miles, compared to an increase of 3.5 square miles for the Proposed Project. At JWA, Alternative C would increase the area affected by the 65 CNEL by 0.32 square mile, compared to 0.05 square mile for the Proposed Project.

The Proposed Project would increase noise sensitive land uses within the OCX 65 CNEL by three churches and one private school compared to existing conditions. However, this alternative would avoid the impacts of the Proposed Project on the three churches, but the private school would still be affected by the 65 dB CNEL. In general, the 65 CNEL line for this alternative is located within the much larger (28.8 square mile) MCAS El Toro AICUZ 65 CNEL. However, the Alternative C 65 CNEL line does exceed the AICUZ 65 CNEL boundary north of the El Toro site and, therefore, Alternative C has the same impacts of the Proposed Project outside the AICUZ 65 CNEL line.

EIR No. 563 concluded that a civilian airport at MCAS El Toro would result in significantly greater number of total operations compared to historical military levels of use, both throughout the day and during the nighttime hours. Although the Proposed Project and

Alternative C would have significantly fewer operations than the Community Reuse Plan analyzed in EIR No. 563, the number of forecast civilian operations is still substantially greater at El Toro than the existing conditions level of military operations.

As discussed earlier, the CNEL calculation factors in the number of daily operations and assigns a “penalty weighting” to operations occurring during the nighttime hours (10 p.m. to 7 a.m.). However, the substantial increase in the number of operation, particularly during nighttime hours, may be considered a significant impact of Alternative C independent of the CNEL computation.

The noise levels identified for the Proposed Project as well as Alternative C will be considered an annoyance by some residents and nighttime events will cause some sleep disturbance regardless of the levels of significance prescribed by regulatory agencies. Therefore, a mitigation measure for sleep disturbance is proposed in Section 4.4. With this mitigation measure, Alternative C impacts are reduced but remain significant similar to the Proposed Project.

8.5.4.5 Air Quality

Alternative C would have greater impacts due to JWA operations, but would have fewer impacts at the El Toro site than under the Proposed Project. The local and regional impacts of this alternative would likely be similar to the Proposed Project. Construction impacts would also likely remain significant and unavoidable, similar to the air quality impacts identified for the Proposed Project. Air toxics impacts would also be similar to those under the Proposed Project. This alternative would not avoid or substantially lessen the air quality project impacts.

Short-Term (Construction) Impacts

Total on-site construction emissions under Alternative C would be similar to those of the Proposed Project. Construction of an airport to airport connector system under this alternative would add to the total project construction emissions, but may not increase the total peak daily emissions depending on the construction scheduling. Nevertheless, Alternative C would result in significant unavoidable short-term construction emissions impacts similar to the Proposed Project.

Operational Air Quality Impacts

Emissions Inventories

Direct air pollutant emissions associated with airport operations, including aircraft, GSE, energy consumption, and vehicular trips, are shown in Table 8.5-4 for this alternative. Air pollutant emissions under this project alternative are very similar to those under the

Proposed Project, due to similar total number of air travel passengers projected.¹ Although project site emissions at OCX are larger than the No Project/No Activity Alternative and the Nonaviation Plan Alternative, like the Proposed Project, this alternative would reduce regional VMT compared to No Project conditions because more of the demand would be serviced in Orange County. With lower regional VMT, this alternative would result in lower total regional emissions than the No Project or ETRPA Alternative. See Table 8.5-5.

**Table 8.5-4
Phase 4 Alternative C – Project Direct Air Pollutant Emissions (Pounds/Day)**

	CO	NO _x	ROC ¹	SO _x	PM ₁₀
Aircraft	12,457.43	14,964.43	1,249.39	966.37	157.78
OCX	5,294.64	12,038.99	773.56	690.50	102.62
JWA	7,162.79	2,925.44	475.83	275.87	55.16
GSE/APU	19,532.10	1,732.62	568.00	67.81	73.02
OCX	10,975.79	1,096.30	342.46	50.98	47.01
JWA	8,556.31	636.32	225.54	17.73	26.01
Fuel Storage/Dispensing	--	--	83.46	--	--
OCX	--	--	72.50	--	--
JWA	--	--	10.96	--	--
Airport Roadways	661.56	141.48	213.35	8.67	8.99
OCX	540.79	126.57	209.14	8.02	7.76
JWA	120.77	14.91	4.21	0.65	1.23
Airport Parking	411.07	34.65	14.36	11.24	3.45
OCX	314.59	27.22	4.37	8.19	3.17
JWA	96.48	7.43	9.99	3.05	0.28
Energy Consumption	126.10	726.50	6.80	74.50	24.80
OCX	88.10	507.50	4.70	52.00	17.30
JWA	38.00	219.00	2.10	22.50	7.50
Vehicular Traffic ²	<u>17,145</u>	<u>6,802</u>	<u>1,392</u>	<u>446</u>	<u>3,470</u>
	15,573	6,088	1,282	440	3,087
OCX ³	<u>12,826</u>	<u>5,055</u>	<u>1,052</u>	<u>339</u>	<u>2,576</u>
	11,254	4,341	942	333	2,193
JWA	4,319	1,747	340	107	894
Total	<u>50,333.26</u>	<u>24,401.68</u>	<u>3,527.36</u>	<u>1,574.59</u>	<u>3,738.04</u>
	48,761	21,955	3,417	1,569	3,355

Source: CH2M Hill and LSA Associates, Inc., 2001

¹ ROC emissions obtained by multiplying HC emissions reported by EDMS by a factor of 1.14

² SO_x emissions are not reported by the URBEMIS7G model.

³ Revised calculation of average trip length. This revision does not impact any of the significance determinations made in connection with the project.

¹ For a more detailed emissions inventory discussion, please see the Proposed Project discussion in Chapter 2.0 of this supplemental analysis.

**Table 8.5-5
Regionwide Emissions Inventory Alternative C Phase 4
(Pounds/Day Unless Noted)**

		CO	NO _x	ROC	SO _x	PM ₁₀
Aircraft	El Toro	5,294.64	12,038.99	773.56	690.50	102.62
	JWA	7,162.79	2,925.44	475.83	275.87	55.16
	Other Airports	66,392.26	72,068.29	9,570.54	5,484.71	788.94
	<u>Total Regional</u>	<u>78,849.69</u>	<u>87,032.72</u>	<u>10,819.93</u>	<u>6,451.08</u>	<u>946.72</u>
GSE	El Toro	10,975.79	1,096.30	342.46	50.08	47.01
	JWA	8,556.31	636.32	225.54	17.73	26.01
	Other Airports	91,932.50	9,231.57	2,720.06	597.93	338.51
	<u>Total Regional</u>	<u>111,464.60</u>	<u>10,964.19</u>	<u>3,288.06</u>	<u>665.74</u>	<u>411.53</u>
Energy	El Toro	88.10	507.50	4.70	52.00	17.30
	JWA	38.00	219.00	2.10	22.50	7.50
	Others	544.00	3,132.00	29.00	319.00	107.00
	<u>Total Regional</u>	<u>670.10</u>	<u>3,858.50</u>	<u>35.80</u>	<u>393.50</u>	<u>131.80</u>
Fuel	El Toro	--	--	72.50	--	--
	JWA	--	--	10.96	--	--
	Other Airports	--	--	481.74	--	--
	<u>Total Regional</u>	<u>--</u>	<u>--</u>	<u>565.20</u>	<u>--</u>	<u>--</u>
Airport Roadways	El Toro	540.79	126.57	209.14	8.02	7.76
	JWA	120.77	14.91	4.21	0.65	1.23
	Other Airports	3,170.27	643.34	145.87	68.30	52.60
	<u>Total Regional</u>	<u>3,831.83</u>	<u>784.82</u>	<u>359.22</u>	<u>76.97</u>	<u>61.59</u>
Airport Parking	El Toro	314.59	27.22	4.37	8.19	3.17
	JWA	96.48	7.43	9.99	3.05	0.28
	Other Airports	1,981.71	170.63	27.35	52.63	20.77
	<u>Total Regional</u>	<u>2,392.78</u>	<u>205.28</u>	<u>41.71</u>	<u>63.87</u>	<u>24.22</u>
Roads	El Toro ¹	<u>12,826.00</u>	<u>5,055.00</u>	<u>1,052.00</u>	<u>339.00</u>	<u>2,576.00</u>
		11,254.00	4,341.00	942.00	333.00	2,193.00
	JWA	4,319.00	1,747.00	340.00	107.00	894.00
	Others Airports ²	2,755,094.00	489,631.00	70,441.00	48,560.00	6,344.00
		2,722,511.00	483,968.00	66,692.00	48,996.00	6,445.00
	<u>Total Regional²</u>	<u>2,772,239.00</u>	<u>496,433.00</u>	<u>71,833.00</u>	<u>48,996.00</u>	<u>9,814.00</u>
	2,738,084.00	490,056.00	67,974.00	49,436.00	9,532.00	
TOTAL (pounds/day)		<u>2,969,448.00</u>	<u>599,278.51</u>	<u>86,942.92</u>	<u>56,647.16</u>	<u>11,389.86</u>
		2,935,293.00	592,901.51	83,083.92	57,087.16	11,107.86
Change from 2020 No Project (pounds/day)		(9,914.60)	(314.85)	(635.36)	(243.10)	(29.54)
		(35,723.60)	(5,097.99)	(3,545.73)	84.90	(320.11)
SCAQMD Threshold for Operation (pounds/day)		550	55	55	150	150

Source: LSA Associates, Inc., 2001.

¹ Revised calculation of average trip length. This revision does not impact any of the significance determinations made in connection with the project.

² Typographical correction.

Dispersion Analysis

The Proposed Project would result in several exceedances of the 1-hour standard for NO₂ at JWA and OCX and continue the exceedances of the State 24-hour standard for PM₁₀ at OCX and JWA. Although no airport dispersion analysis was conducted for this project alternative, these local criteria pollutant hot spots found under the Proposed Project may also occur under this alternative.

At intersections in the vicinity of the project sites, CAL3QHC model was used to assess the CO concentrations. Tables 8.5-6 and 8.5-7 show that the 1-hour and 8-hour CO concentrations would be below the State and federal CO standards of 9 ppm/20 ppm and 9 ppm/35 ppm, respectively. Therefore, similar to the Proposed Project, no CO hot spots would occur from project related vehicular traffic trips under this alternative.

Toxic Air Contaminant Impacts

This alternative would avoid some of the impacts identified under the Proposed Project at MCAS El Toro but have greater impacts than under the Proposed Project at JWA. Therefore, air toxic impacts would likely be similar to those under the Proposed Project. Impacts would be reduced with the mitigation measures recommended for the project but are anticipated to remain significant after mitigation.

8.5.4.6 Topography

Compared to existing conditions, this alternative would have greater impacts at JWA and slightly less impact at the El Toro site than the Proposed Project. With the mitigation measures proposed for the Proposed Project, the impacts of this alternative would be reduced to a level of insignificance. This alternative would not avoid or substantially lessen the impacts of the project.

With the exception of the JWA/OCX connector, the facilities to be developed and constructed for this alternative are very similar to those of the Proposed Project. Since development of the MCAS El Toro site under Alternative C is similar to that described for the Proposed Project, no significant impacts related to topography would occur.

Operations and construction at JWA under Alternative C would be similar to the current usage, and would not entail expansion of the airport acreage although it would require some facilities improvements in previously developed or disturbed areas. Therefore, Alternative C would not raise potential impacts related to topography.

**Table 8.5-6
Phase 4 Alternative C – Predicted One Hour Ambient Carbon Monoxide Concentration for
Intersections with the Highest Volume and Worst Level of Service (LOS)**

INTJ	INTERSECTING STREETS	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12
CITY OF ORANGE¹³													
345	Jamboree & Chapman	7.0	7.0	7.2	7.0	7.0	7.2	6.8	7.2	6.9	6.8	6.8	6.7
CITY OF SANTA ANA¹⁴													
154	MacArthur & Main	7.1	7.2	7.1	7.2	6.9	6.9	6.8	7.1	6.9	7.0	6.7	6.8
152	Main & Sunflower	7.0	7.1	6.7	7.1	6.6	7.0	6.6	6.5	6.7	6.8	7.1	6.9
90	Grand & Edinger	6.9	7.0	7.0	7.3	7.0	7.1	6.7	7.0	6.6	7.0	6.9	6.7
CITY OF TUSTIN¹³													
93	Newport & Edinger	7.2	7.1	6.9	7.2	6.7	6.7	6.6	6.7	6.7	7.0	6.6	6.9
115	Von Karman & Barranca	7.0	7.1	7.1	6.9	6.6	7.1	6.7	6.9	6.6	6.6	6.7	6.9
95	Tustin Ranch & Edinger	7.1	7.0	6.9	7.1	6.7	6.9	6.6	6.7	6.9	7.0	6.6	7.0
CITY OF IRVINE¹⁴													
116	Jamboree & Barranca	5.9	6.0	5.6	5.6	5.3	5.5	5.3	5.5	5.5	5.4	5.5	5.8
156	Jamboree & Main	5.6	5.6	5.7	5.4	5.2	5.4	5.3	5.4	5.3	5.3	5.4	5.5
98	Culver & Irvine Center	5.6	5.6	5.7	5.7	5.3	5.4	5.4	5.5	5.3	5.5	5.4	5.5
134	Jamboree & Alton	5.6	5.6	5.7	5.6	5.1	5.5	5.2	5.4	5.4	5.4	5.4	5.7
175	Jamboree & Michelson	5.7	5.4	5.4	5.6	5.1	5.3	5.3	5.3	5.3	5.4	5.4	5.4
151	Red Hill & MacArthur	5.7	5.4	5.5	5.6	5.1	5.4	5.4	5.3	5.3	5.4	5.4	5.7
100	Jeffrey & Irvine Center	5.6	5.5	5.5	5.7	5.4	5.6	5.2	5.3	5.4	5.7	5.1	5.3
321	Access Rd. West & Irvine	5.2	5.2	5.2	5.4	5.1	5.1	5.1	5.2	4.9	4.9	5.1	5.2
153	Red Hill & Main	5.4	5.5	5.5	5.6	5.1	5.3	5.2	5.2	5.2	5.2	5.1	5.2
320	Perimeter & Irvine	5.3	5.3	5.3	5.1	5.0	4.9	5.0	5.2	4.8	4.8	5.1	5.1
CITY OF LAGUNA BEACH¹⁴													
299	Moulton & El Toro	5.4	5.4	5.5	5.5	5.1	5.3	5.4	5.4	5.0	5.3	5.1	5.1
CITY OF LAGUNA HILLS¹⁴													
280	El Toro & Avd. Carlotia	5.4	5.4	5.4	5.3	5.0	5.2	5.0	5.0	5.2	5.2	5.1	5.3
CITY OF LAKE FOREST¹⁴													
271	El Toro & Rockfield	5.6	5.5	5.6	5.5	5.2	5.3	5.2	5.3	5.2	5.3	5.3	5.4

Note: * - Concentrations are in parts per million (ppm)

1 - REC1 SW CORNER

2 - REC2 SE CORNER

3 - REC3 NE CORNER

4 - REC4 NW CORNER

5 - REC5 S. DEPARTURE - MID BLOCK

6 - REC6 N. APPROACH - MID BLOCK

7 - REC7 E. DEPARTURE - MID BLOCK

8 - REC8 W. APPROACH - MID BLOCK

9 - REC9 N. DEPARTURE - MID BLOCK

10 - REC10 S. APPROACH - MID BLOCK

11 - REC11 W. DEPARTURE - MID BLOCK

12 - REC12 E. APPROACH - MID BLOCK

13 - The ambient one-hour CO concentration, 6.10 ppm, obtained by multiplying a rollback factor to the second highest one-hour CO concentration at the nearest air monitoring station, Central Orange County Air Monitoring Station between the years 1996 to 2000, is added to the calculated one hour levels.

14 - The ambient one-hour CO concentration, 4.6 ppm, obtained by multiplying a rollback factor to the second highest one-hour CO concentration at the nearest air monitoring station, Saddleback Valley Air Monitoring Station between the years 1996 to 2000, is added to the calculated one hour levels.

**Table 8.5-7
Phase 4 Alternative C – Predicted Eight Hour Ambient Carbon Monoxide Concentration for
Intersections with the Highest Volume and Worst Level of Service (LOS)**

INTX	INTERSECTING STREETS	REC1 ¹	REC2 ²	REC3 ³	REC4 ⁴	REC5 ⁵	REC6 ⁶	REC7 ⁷	REC8 ⁸	REC9 ⁹	REC10 ¹⁰	REC11 ¹¹	REC12 ¹²
CITY OF ORANGE¹³													
345	Jamboree & Chapman	5.2	5.2	5.4	5.2	5.2	5.4	5.1	5.4	5.2	5.1	5.1	5.0
CITY OF SANTA ANA¹⁴													
154	MacArthur & Main	5.3	5.4	5.3	5.4	5.2	5.2	5.1	5.3	5.2	5.2	5.0	5.1
152	Main & Sunflower	5.2	5.3	5.0	5.3	5.0	5.2	5.0	4.9	5.0	5.1	5.3	5.2
90	Grand & Edinger	5.2	5.2	5.2	5.4	5.2	5.3	5.0	5.2	5.0	5.2	5.2	5.0
CITY OF TUSTIN¹³													
93	Newport & Edinger	5.4	5.3	5.2	5.4	5.0	5.0	5.0	5.0	5.0	5.2	5.0	5.2
115	Von Karman & Barranca	5.2	5.3	5.3	5.2	5.0	5.3	5.0	5.2	5.0	5.0	5.0	5.2
95	Tustin Ranch & Edinger	5.3	5.2	5.2	5.3	5.0	5.2	5.0	5.0	5.2	5.2	5.0	5.2
CITY OF IRVINE¹⁴													
116	Jamboree & Barranca	3.8	3.9	3.6	3.6	3.4	3.5	3.4	3.5	3.5	3.5	3.5	3.7
156	Jamboree & Main	3.6	3.6	3.7	3.5	3.3	3.5	3.4	3.5	3.4	3.4	3.5	3.5
98	Culver & Irvine Center	3.6	3.6	3.7	3.7	3.4	3.5	3.5	3.5	3.4	3.5	3.5	3.5
134	Jamboree & Alton	3.6	3.6	3.7	3.6	3.3	3.5	3.3	3.5	3.5	3.5	3.5	3.7
175	Jamboree & Michelson	3.7	3.5	3.5	3.6	3.3	3.4	3.4	3.4	3.4	3.5	3.5	3.5
151	Red Hill & MacArthur	3.7	3.5	3.5	3.6	3.3	3.5	3.5	3.4	3.4	3.5	3.5	3.7
100	Jeffrey & Irvine Center	3.6	3.5	3.5	3.7	3.5	3.6	3.3	3.4	3.5	3.7	3.3	3.4
321	Access Rd. West & Irvine	3.3	3.3	3.3	3.5	3.3	3.3	3.3	3.3	3.1	3.1	3.3	3.3
153	Red Hill & Main	3.5	3.5	3.5	3.6	3.3	3.4	3.3	3.3	3.3	3.3	3.3	3.3
320	Perimeter & Irvine	3.4	3.4	3.4	3.3	3.2	3.1	3.2	3.3	3.0	3.0	3.3	3.3
CITY OF LAGUNA BEACH¹⁴													
299	Moulton & El Toro	3.5	3.5	3.5	3.5	3.3	3.4	3.5	3.5	3.2	3.4	3.3	3.3
CITY OF LAGUNA HILLS¹⁴													
280	El Toro & Avd. Carlota	3.5	3.5	3.5	3.4	3.2	3.3	3.2	3.2	3.3	3.3	3.3	3.4
CITY OF LAKE FOREST¹⁴													
271	El Toro & Rockfield	3.6	3.5	3.6	3.5	3.3	3.4	3.3	3.4	3.3	3.4	3.4	3.5

Note: * - Concentrations are in parts per million (ppm)

1 - REC1 SW CORNER

2 - REC2 SE CORNER

3 - REC3 NE CORNER

4 - REC4 NW CORNER

5 - REC5 S. DEPARTURE - MID BLOCK

6 - REC6 N. APPROACH - MID BLOCK

7 - REC7 E. DEPARTURE - MID BLOCK

8 - REC8 W. APPROACH - MID BLOCK

9 - REC9 N. DEPARTURE - MID BLOCK

10 - REC10 S. APPROACH - MID BLOCK

11 - REC11 W. DEPARTURE - MID BLOCK

12 - REC12 E. APPROACH - MID BLOCK

13 - The ambient eight-hour CO concentration, 4.6 ppm, obtained by multiplying a rollback factor to the second highest eight-hour concentration at the nearest air monitoring station, Central Orange County Air Monitoring Station between the years of 1996 to 2000, is added to the product of the calculated one-hour levels multiplied by a persistent factor of 0.7.

14 - The ambient eight-hour CO concentration, 2.9 ppm, obtained by multiplying a rollback factor to the second highest eight-hour concentration at the nearest air monitoring station, Saddleback Valley Air Monitoring Station between the years of 1996 to 2000, is added to the product of the calculated one-hour levels multiplied by a persistent factor of 0.7.

8.5.4.7 Soils, Geology and Seismicity

Compared to existing conditions, this alternative would have greater impacts at JWA and slightly less impact at the El Toro site than the Proposed Project. With the mitigation measures proposed for the Proposed Project, the impacts of this alternative would be reduced to a level of insignificance. This alternative would not avoid or substantially lessen the impacts of the project.

With the exception of the JWA/OCX connector, the physical area to be developed/redeveloped and constructed for Alternative C is very similar to that under the Proposed Project. Development on the MCAS El Toro site under Alternative C would be very much like that assumed for the Proposed Project, and would not significantly differ in its potential impacts related to soils or local geologic features. Alternative C also does not entail additional risk based on projected earthquake events beyond those discussed for the Proposed Project.

Operations and construction at JWA under Alternative C would be similar to current usage, and would not entail expansion of the airport acreage. Therefore, Alternative C would not raise potential impacts related to soils, geologic features or seismicity.

8.5.4.8 Hydrology and Water Quality

Compared to existing conditions, this alternative would have greater impacts at JWA and slightly less impact at the El Toro site than the Proposed Project. With the mitigation measures proposed for the Proposed Project, the impacts of this alternative would be reduced to a level of insignificance. This alternative would not avoid or substantially lessen the impacts of the project.

With the exception of the JWA/OCX connector, the facilities to be developed and constructed for Alternative C are very similar to those of the Proposed Project. As discussed in Section 4.8 (Hydrology and Water Quality), the Proposed Project will not result in significant adverse impacts related to drainage and surface water quality. Because most issues related to drainage at the MCAS El Toro site can be addressed adequately through proper design and engineering, it is anticipated that Alternative C could be developed for use as a civilian airport without significant adverse impacts related to hydrology. Similarly, as discussed in Section 4.8, operations can be conducted and controls implemented to minimize potential project-related adverse impacts to surface water quality. Consequently, development of this alternative is unlikely to result in significant adverse impacts to surface water quality.

The JWA/OCX connector will have additional impacts related to both runoff and water quality associated with the connector corridor and facility between the two airports. The drainage impacts can be mitigated using proper engineering design and construction practices; similar to those assumed for the roads and runways under the Proposed Project. Impacts to surface water quality from construction and operation of this connector can be

mitigated, using Best Management Practices (BMPs) and other permit requirements to minimize adverse impacts related to water quality, similar to the Proposed Project. Therefore this alternative will not result in significant adverse drainage and surface water impacts after mitigation.

No groundwater will be pumped from the MCAS El Toro site under this alternative so there will be no impacts to local groundwater levels or basin storage under this alternative. Groundwater quality impacts under this alternative will be the same as those discussed for the Proposed Project in Section 4.8, associated with the base closure plan remediation. Therefore, this alternative will result in no significant adverse impacts after mitigation related to groundwater. As with the Proposed Project, no hazardous waste remediation activities at the MCAS El Toro site are included as a component of this alternative.

In summary, the hydrology and water quality impacts of Alternative C will be slightly greater than the level of impacts under the Proposed Project because of the connector and the increased aviation activities at JWA.

8.5.4.9 Biological Resources

Compared to existing conditions, this alternative would have greater impacts at JWA and slightly less impact at the El Toro site than the Proposed Project. With the mitigation measures proposed for the Proposed Project, the impacts of this alternative would be reduced to a level of insignificance. This alternative would not avoid or substantially lessen the impacts of the project.

The aviation land use and airfield component for the MCAS El Toro site and the corresponding nonaviation component are very similar to the Proposed Project. Alternative C project components that require construction occupy nearly the same areas and closely parallel functions identical to those under the Proposed Project. The primary difference between Alternative C and the Proposed Project is the airport-to-airport connector. However, the physical improvements that comprise Alternative C have nearly identical biological resource impacts as to the Proposed Project.

The direct impacts of Alternative C also include the loss of approximately 139 acres of agricultural land, which is the same acreage loss estimated for the Proposed Project. This impact results in reduced foraging opportunities for raptor species similar to the Proposed Project. Other direct impacts (i.e. native plant communities, wildlife, wildlife dispersion corridors and special interest species) are also very similar. There are some slight differences in potential impacts as a result of noise exposure and aircraft overflights, since the aircraft operations differ at both the MCAS El Toro and JWA sites. However, noise and overflight characteristics are not substantively different between Alternative C and the Proposed Project and are not expected to result in significant adverse biological resource impacts at Siphon Ridge, the Habitat Reserve, the San Joaquin Hills or Upper Newport Bay.

The CNEL and SEL values at these locations are discussed in detail in the Biological Resources Technical Report.

8.5.4.10 Public Services and Utilities

Compared to existing conditions, this alternative would have greater impacts at JWA and slightly less impact at the El Toro site than the Proposed Project. With the mitigation measures proposed for the Proposed Project, the impacts of this alternative would be reduced to a level of insignificance. This alternative would not avoid or substantially lessen the impacts of the project.

The airport-to-airport light rail system that is unique to Alternative C would require some level of police security, emergency and medical service, and transit planning. Mitigation to implement the needed services would reduce any potential impacts of Alternative C on public services to below a level of significance. Alternative C is nearly identical to the Proposed Project in all other aspects so the provision of public services would not be impacted.

As described in Section 4.10 (Public Services and Utilities), the Proposed Project is not anticipated to result in significant adverse impacts related to utilities at El Toro site or JWA. It is anticipated that the utilities needs at El Toro and JWA under Alternative C could be served by existing or currently planned utilities, or extensions/expansions of existing utility infrastructure, without significant adverse impacts after mitigation, similar to the Proposed Project. Mitigation similar to that for the Proposed Project would reduce the potential adverse impacts of this alternative related to utilities infrastructure and services at El Toro and JWA to below a level of significance.

8.5.4.11 Natural Resources and Energy

Compared to existing conditions, this alternative would have greater impacts at JWA and slightly less impact at the El Toro site than the Proposed Project. With the mitigation measures proposed for the Proposed Project, the impacts of this alternative would be reduced to a level of insignificance with the exception of the unavoidable adverse impact to loss of Prime Agricultural Lands. This alternative would not avoid or substantially lessen the impacts of the project.

The land use/airfield, nonaviation land use and associated infrastructure components for this alternative are virtually identical to those of the Proposed Project. The primary exception is the light-rail, airport-to-airport link planned under Alternative C.

As discussed in Section 4.11 (Natural Resources and Energy), the Proposed Project will not result in significant adverse impacts related to natural resources and energy at either JWA or the MCAS El Toro site, with the exception of unmitigatable significant impacts to agricultural resources on the MCAS El Toro site. There are no agricultural resources at

JWA. The incremental increase in regional energy consumption associated with operation of the JWA/OCX connector would be minor. Consequently, although energy consumption would be greater for this alternative than for the Proposed Project, no significant adverse impacts to energy resources will occur with the implementation of this alternative.

This alternative and the Proposed Project would have the same level of significant adverse unmitigatable impacts associated with loss of agricultural resources at the MCAS El Toro site. There are no agricultural resources existing at JWA; therefore, no impacts at JWA would result from this alternative.

8.5.4.12 Aesthetics, Light and Glare

Compared to existing conditions, this alternative would have greater impacts at JWA and slightly less impact at the MCAS El Toro site than the Proposed Project. With mitigation measures, the impacts of this alternative would be reduced to a level of insignificance at both JWA and MCAS El Toro sites. This alternative would not avoid or substantially lessen the project impacts.

The visual effect of Alternative C at the MCAS El Toro site would be very similar to that of the Proposed Project. The primary differences between Alternative C and the Proposed Project are the addition of a people mover (APM) passenger and baggage transport system between JWA and OCX.

The JWA/OCX connector would be an elevated fixed guideway system along SR-133 to the I-405 corridor, then along the I-405 Freeway right-of-way to MacArthur Boulevard and then to JWA. Examples of “people mover” systems are shown in Technical Report No. 6, Alternatives Definition Report (OCAA, November, 1999), Figures 1-4 through 1-6. Provision of an elevated guideway system for passenger and baggage connection between the two airport sites would impact the existing visual setting along the freeway corridor by creating an upper level structure that currently does not exist. The new structure would block views from the freeway corridor. The terminal points of this system at OCX and JWA would be visible from existing roads and the I-405 Freeway.

The views from the majority of the vantage points described in Section 4.12 would not change substantially from those of the Proposed Project. Vantage Point 8 would show the connection of the elevated APM system as it enters the terminal. Light and glare effects of this alternative would be similar to those of the Proposed Project, with some potential additional lighting from the APM facility along the freeway route and at the OCX terminal.

No significant runway improvements would be made at JWA, and the terminal would be expanded by lengthening both concourses and increasing the size of the RON area; no expansion of the existing boundaries of JWA would be required. The APM connecting JWA with OCX would enter the terminal area at JWA by way of MacArthur Boulevard and terminate in a station adjacent to the existing terminal. The addition of this passenger

system would be visible from existing roads and the I-405 Freeway adjacent to JWA. No scenic vistas or views would be blocked or altered by the addition of this structure, as the area is urbanized; the system would further intensify the urbanized effect of the visual setting. Compared to the Proposed Project, additional lighting and potential glare would be generated by the APM system as it connects with the JWA terminal.

In conclusion, the aesthetic impact of Alternative C would not be less than those of the Proposed Project.

8.5.4.13 Cultural Resources

Compared to existing conditions, this alternative would have the potential for greater impacts at JWA and slightly less impact at the MCAS El Toro site than the Proposed Project. With mitigation measures, the impacts of this alternative at either site would be reduced to a level of insignificance. This alternative would not avoid or substantially lessen the project impacts.

The effects of Alternative C on cultural resources at the MCAS El Toro site would be approximately the same as with the Proposed Project. As the cultural resources within the disturbance area (construction and operations) are not considered significant (SHPO concurrence to be included in the DOD's EIS), no significant impacts would be caused by this alternative, as with the Proposed Project.

Under Alternative C, improvements at JWA would be made within the boundaries of the existing airport site. For Alternative C, there would be no additional or new effects on cultural resources since there is no known archaeological, paleontological or historic resources on the already developed airport property.

8.5.4.14 Recreation

Compared to existing conditions, this alternative would have greater impacts at JWA and slightly less impact at the MCAS El Toro site than the Proposed Project. With the mitigation measures proposed for the Proposed Project and additional mitigation related to noise impacted recreation uses around JWA, the impacts of this alternative would be reduced to a level of insignificance. This alternative would not avoid or substantially lessen the impacts of the project.

Alternative C would have approximately the same effects related to recreational resources in the MCAS El Toro area as the Proposed Project. The area of construction with Alternative C would be, for all practical purposes, the same as that of the Proposed Project. Therefore, no adjacent off-road trails would be physically impacted with Alternative C similar to the Proposed Project. Development at the MCAS El Toro site with Alternative C would have the same effect regarding consistency with County and City General Plan Recreational policies, goals and objectives, in that nonaviation land uses would be included on-site

similar to the Proposed Project. In addition, Alternative C would not differ from the project in that it would not exceed Thresholds of Significance ii and iii in Section 4.14.

Given the alignment of the JWA/OCX connector, impacts to existing recreational facilities would be limited to temporary disruption of use of on-street Class II bikeways adjacent to OCX and JWA during construction of the connector facility. The temporary impact to on-street bikeways would be less than significant with implementation of standard construction detour measures. No off-road trails or site specific recreational areas would be physically impacted by the airport to airport connector.

Compared to the Proposed Project, Alternative C would have substantially the same impact on recreational facilities and planned future facilities within the 65 CNEL contour. The overall noise impact on the use of area recreational facilities would be similar to the impacts of the Proposed Project.

The airport to airport connector would be located within existing freeway right of way and along existing highways, such that recreational facilities such as off-street trails and parks would not be affected. Alternative C would result in slightly enlarged noise contours around JWA; however, this increase would be minimal, and not anticipated to include any additional recreational facilities within the 65 CNEL noise contour compared to existing conditions.

8.5.4.15 Public Health and Safety

Compared to existing conditions the overall potential for accidents is greater with this alternative. The increase in accident potential is not deemed to be significant as an extraordinary risk is not created. This alternative would not avoid or substantially lessen project impacts.

Aviation Safety

Compared to the Proposed Project, there would be an increase of approximately 79,500 air carrier and air cargo operations and a decrease of approximately 42,000 general aviation operations at JWA. Under this scenario, the potential air carrier and air cargo accident risks at JWA would increase by approximately 117.8% to reflect the number of increasing aviation activity diverted from OCX to JWA and the potential accident risks for general aviation at JWA would decrease by 11.7% correspondingly. At OCX, there would be an estimated decrease of 101,500 air carrier and air cargo operations and an estimated decrease of 7,000 general aviation operations. Under this condition, the potential air carrier and air cargo accident risks at OCX would decrease by approximately 36.6% to reflect the fewer number of operations at OCX and the potential general aviation accident risks would decrease by 31.8% correspondingly. Compared to the Proposed Project relative to on-airport and off-airport fatal accidents per million operations, there would be no significant adverse impacts related to aviation safety at the MCAS El Toro site or at JWA.

Compared to the existing conditions, there would be an increase of approximately 56,992 air carrier and air cargo operations and a decrease of approximately 10,624 general aviation operations at JWA. Under this scenario, the potential air carrier and air cargo accident risks at JWA would increase by approximately 63.3% to reflect the number of increasing operations and the potential general aviation accident risks would slightly decrease by 3.2% correspondingly. Compared to the existing conditions, there would be no significant adverse impacts related to aviation safety at JWA.

8.5.4.16 Hazardous Materials and Hazardous Wastes

Compared to existing conditions, this alternative would have greater impacts at JWA and slightly less impact at the MCAS El Toro site than the Proposed Project. With the mitigation measures proposed for the Proposed Project, the impacts of this alternative would be reduced to a level of insignificance. This alternative would not avoid or substantially lessen the impacts of the Proposed Project.

Construction of facilities required under both the Proposed Project and Alternative C would require ground-disturbing activities. Under Alternative C, the impacts of greatest concern, when dealing with soil and groundwater contamination, are human exposure and the spread of contaminants in the environment. Since the preferred approach to the transit connector is an elevated system, no significant excavation is expected.

If PCE levels in the groundwater exceed regulatory levels at the time of construction, treatment would be required before the extracted water could be discharged.

The impacts of Alternative C related to hazardous materials and hazardous wastes are the same as under the Proposed Project.

8.5.4.17 Socioeconomics

Under this alternative, a total of 29,100 jobs would be created for the Airport System Master Plan, including almost 22,900 jobs at the MCAS El Toro site and 6,200 jobs at JWA in 2020, representing a net increase of 20,200 jobs at MCAS El Toro site, and 4,100 jobs at JWA, over existing 1998 conditions. The total number of jobs generated under this alternative is marginally lower than under the Proposed Project. However, there are differences in the distribution of jobs between the two alternatives. The number of jobs generated at the El Toro site under Alternative C will be lower than the number of jobs generated under the Proposed Project. However, a greater number of jobs would be generated at JWA under Alternative C than under the Proposed Project.

As with the Proposed Project, economic activity on the MCAS El Toro and JWA sites, as well as expenditures by visitors arriving by air through the two airports, would stimulate

additional off-site job growth. The number of off-site jobs stimulated by the airport system under Alternative C would be similar to the level under the Proposed Project.

Given the marginal difference in the total number of jobs generated under the Proposed Project and Alternative C, at 29,500 and 29,000 jobs respectively, the magnitude of impacts under Alternative C related to inducing substantial growth or concentration of employment, consistency with adopted regional forecasts, and increased demand for housing, including low and moderate income housing, would be similar to that of the Proposed Project. Therefore, the impacts of Alternative C will not be substantially different from the impacts of the Proposed Project. This alternative would not avoid or measurably lessen the impacts of the Proposed Project.

8.5.4.18 Risk of Upset

Compared to existing conditions, this alternative would have greater impacts at JWA and slightly less impact at the El Toro site than the Proposed Project. With the mitigation measures proposed for the Proposed Project, the impacts of this alternative would be reduced to a level of insignificance. This alternative would not avoid or substantially lessen the impacts of the Proposed Project.

As discussed in Section 4.18 (Risk of Upset), the Proposed Project would not result in significant adverse impacts to public health and safety resulting from project-related risk of upset conditions. The ultimate build out and phased development of this alternative will entail a level of operations similar to the Proposed Project, with similar levels of risk of upset potential associated with jet fuel storage and delivery requirements. Consequently, this alternative would not result in significant adverse impacts to public health and safety.

8.5.5 Feasibility

Technical Report 13, published March 18, 1999, provided a detailed analysis of the OCX-JWA connector system to evaluate the feasibility of Alternative C. In order to allow passengers to connect effectively between the short-haul flights at JWA and the longer haul flights at OCX, it would be necessary to build and operate a connector system between the two airports which would, in effect, allow the two facilities to function as a single airport. Without this connector, the market segmentation between the two airports is not feasible. Also, it is assumed that regulatory perimeter rules would define the roles of the two airports.

The costs of the connector were found to be unreasonable to the extent they would impose unnecessary burdens on the Orange County air traveling public and the airlines that serve them. The total costs per rider for a two-way connector trip were estimated to be between \$103 and \$110 (in 2020 dollars), assuming the connector would be implemented in Phase 4 when connector costs could be spread over a greater number of passengers. If the connector were to begin service in 2005, the cost per rider would be \$248 (in 2005 dollars) for a two-way connector trip. Most of these connector costs would be absorbed ultimately by the

passenger in the form of higher ticket prices, and such an increase would be unacceptable to the airlines and passengers.

8.5.6 Conclusions

For the reasons noted above, Alternative C is infeasible. In addition to infeasibility, the impact analysis demonstrates that this alternative would:

- Meet the general project objectives except to optimize project cost/revenues.
- Increase aviation noise impacts at JWA and regional air quality impacts.
- Decrease aviation noise impacts near OCX compared to the Proposed Project, but impacts on sleep disturbance and recreation uses would remain significant and unavoidable.

Have land use, General Plan consistency, traffic, sleep disturbance, noise impacts on recreation uses, local and regional air quality impacts, construction air quality impacts, toxic air contaminant impacts, soils, geology, seismicity, hydrology, water quality, biological, public services, natural resource, energy, aesthetics, light and glare, cultural, recreational, public health, safety, hazardous materials/wastes, socioeconomics, and risk of upset impacts the same or similar to the project.

8.6 ALTERNATIVE F: JWA – SHORT- TO LIMITED LONG-HAUL WITH LIMITED GENERAL AVIATION; NO AVIATION REUSE AT FORMER MCAS EL TORO

This section presents the potential impacts of Alternative F as measured against the existing setting, as well as a comparison of the alternative's impacts to those of the Proposed Project at build out. In those instances in which the comparison of the alternative to the Proposed Project is materially affected by the phasing of the project, i.e., in those instances in which the impacts of the Proposed Project during the phasing years are materially different from those impacts at year 2020, a comparison of the alternative's impacts to those of the Proposed Project for the applicable phasing year is also provided.

This alternative was selected for analysis because it has the potential to avoid significant unavoidable aircraft noise and aircraft air quality emission impacts at the El Toro site while still feasibly attaining some of the objectives of the Proposed Project.

8.6.1 Aviation Uses

Under Alternative F, JWA would continue to provide short- and medium-haul domestic passenger service (with limited long-haul service), and there would be no aviation reuse at MCAS El Toro. JWA would also provide all-cargo service to short-, medium-, and limited long-haul destinations. JWA would not be constrained by existing limits on passengers or aircraft operations under this alternative. The airport would accommodate as much passenger demand as possible, estimated to be approximately 14 MAP in 2020, by expanding airport facilities to the extent possible within the existing airport property limits, approximately four percent (0.6 MAP) of which would be passengers with connecting flights. JWA is also forecast to annually handle approximately 180 thousand tons of domestic cargo. Alternative F would include 29 jet aircraft gates and 8 commuter aircraft gates, 19 Remain Overnight (RON) aircraft parking spaces, 13,820 vehicle parking spaces, and approximately 1.14 million square feet of terminal area. There would be minimal general aviation service at JWA, which would allow the airport to accommodate expanded commercial service. The general aviation runway would be closed. The main runway would be extended from 5,700 feet to 6,800 feet. General aviation activity would be displaced to private or municipal airports in Orange County or other counties. Figure 8-6 depicts Alternative F.

The environmental analysis of this alternative focuses on the impacts of the alternative at JWA. This alternative does not propose or include any physical changes at the El Toro site. However, if Alternative F were selected and implemented, it necessarily would result in the adoption of a nonaviation plan for the El Toro site, possibly one similar to the ETRPA Nonaviation Alternative. To understand the full impacts of Alternative F along with the

ETRPA Nonaviation Alternative, for example, the reader should review the impacts of both alternatives as addressed in this section.

8.6.2 Nonaviation Revenue Support Uses

Alternative F does not propose nonaviation uses at JWA and does not include any physical changes at the El Toro site. However, approval of Alternative F would lead to the adoption of a nonaviation plan for the El Toro site.

8.6.3 Attainment of Project Objectives

This alternative will not meet the general project objectives for reuse of MCAS El Toro. Alternative F will also not meet the general aviation, existing land use restrictions, and General Plan implementation objectives. It will have a major adverse impact on general aviation as the more than 500 general aviation aircraft now at JWA would have to be relocated. Alternative F also does not encourage growth of service opportunities, and it does not implement the two airport system. This alternative will partially further the other aviation related objectives.

8.6.4 Environmental Impacts of Alternative F

8.6.4.1 Land Use

This alternative would have no land use impacts at the El Toro site since all development would occur at JWA. However, this alternative would have greater adverse land use impacts at JWA than the Proposed Project. Based on this analysis, the alternative would not avoid or substantially lessen impacts compared to the project.

JWA under Alternative F will serve almost twice as many commercial air passengers as are currently served at JWA. This will require a runway extension and facilities expansion. The JWA site is surrounded by business parks, light industrial uses, and airport serving businesses, which are compatible with intensified airport use at JWA, therefore; the intensification of on-site land uses associated with Alternative F will not have significant impact on adjacent off-site land uses. However, as a result of a larger 65 CNEL noise contour, this alternative will have a significant effect on existing residential uses compared to no significant effect under the Proposed Project (see Section 8.4.4.4).

8.6.4.2 General Plan Consistency

This alternative would impact General Plan consistency issues at the El Toro site, although it would not raise General Plan issues with respect to JWA. Amendments to the County Noise Element and AELUP are not required for JWA because the new noise contours related to the increase in the aviation activity at JWA would be within the 1985 JWA Master Plan

contours. Although this alternative avoids aviation uses at the El Toro site, a nonaviation use at El Toro would require a County General Plan Amendment to replace Measure A policies designating the El Toro site for commercial airport development and amendments to reflect the absence of aviation noise and associated land use restrictions.

Under the Proposed Project, the Land Use, Noise, Public Services and Facilities, and Safety elements of the General Plan are proposed to be amended.

8.6.4.3 Transportation and Circulation

This alternative would have greater adverse traffic impacts at JWA than the Proposed Project. Additionally, since this alternative would meet less existing and future County aviation demand, the alternative would result in higher regional vehicle miles traveled (VMT) compared to the Proposed Project. This alternative would not avoid or lessen measurably the project impacts because JWA impacts would be increased and because the foreseeable development of the El Toro site with nonaviation uses would generate adverse impacts greater than the project due to higher regional VMTs.

The AM and PM peak hour and ADT traffic generated by JWA with build out of Alternative F is summarized in Table 8.6-1. Refer to Section 11.0 in the 1999 Traffic Analysis Technical Report for detailed information on the methodology applied to produce trip generation estimates for Alternative F.

**Table 8.6-1
Trip Generation Summary – Alternative F**

Project Component	AM Peak Hour			PM Peak Hour			ADT	Existing ADT
	In	Out	Total	In	Out	Total		
JWA	2,524	1,711	4,235	3,330	3,312	6,642	83,943	47,450

For the JWA site, no changes to the connections that currently provide access between JWA and the surrounding circulation system are envisioned under Alternative F. Primary access to the passenger terminal would be provided by the existing entryways from MacArthur Boulevard at the Michelson Drive and I-405 southbound ramp intersections and from SR-55 via the existing JWA direct connector ramps. The parking areas that replace the existing general aviation facilities in the southeast part of the airport would be accessed from Campus Drive via the existing Airport Way intersection. The parking areas that replace the existing general aviation facilities in the southwest part of the airport would be accessed via the existing general aviation entryway from Baker Street east of Red Hill Avenue.

Table 8.6-2 compares, in summary, the Alternative F highway impacts to the existing conditions and existing conditions plus Proposed Project. There is minimal comparison between the existing plus Proposed Project versus the Alternative F impacts due to the large differences between the scope of the project (two airports) and the alternative (one airport).

**Table 8.6-2
Summary Comparison of Traffic Impacts for Alternative F to
Existing Conditions and Existing Conditions Plus Project**

Existing Conditions Deficient Highway Facilities	Existing Conditions Plus Proposed Project Impacts	Alternative F With Existing Plus Committed Facilities
Location	Location	Location
INTERSECTIONS	IMPACTED INTERSECTION	IMPACTED INTERSECTIONS
Newport (NB) & Del Mar	Bake & Portola	Red Hill & Baker
El Toro & SR-73 NB Ramps	Sand Canyon & Trabuco	SR-55 NB Frontage & Baker
Campus & N. Bristol	Bake & I-5/I-405 SB Ramps	SR-55 NB Frontage & Paularino
Jamboree (SB) & Walnut	Bake & Rockfield	Main & Sunflower
Jamboree & I-405 NB Ramps	Jeffrey & Alton	Campus/Irvine & South Bristol
Jeffrey & I-405 NB Ramps	Jeffrey & I-405 NB Ramps	Campus & North Bristol
Red Hill & MacArthur	Jeffrey & I-405 SB Ramps	Jamboree & Michelson
Irvine Center & Lake Forest	Jeffrey & Walnut/I-5 SB	MacArthur & Main
Bake & Jeronimo	Sand Canyon & I-5 NB Ramps	MacArthur & Michelson
El Toro & Avd Carlota	Sand Canyon & I-5 SB Ramps	Red Hill & MacArthur
La Paz & Cabot/I-5 SB	Irvine Center & Lake Forest	Red Hill & Main
Los Alisos & Muirlands	Bake & Irvine/Trabuco	Von Karman & Michelson
Alicia & Jeronimo	Bake & Toledo	MacArthur & Campus
Alicia & Muirlands	Los Alisos & Muirlands	
La Paz & Muirlands/I-5 NB	Alicia & Jeronimo	IMPACTED FREEWAY RAMPS
Red Hill & Edinger	Newport & Old Irvine	I-405 at MacArthur (NB Off-Ramp)
Red Hill & Sycamore		I-405 at MacArthur (SB On-Ramp)
Red Hill & Walnut	IMPACTED ARTERIAL ROADS	I-405 at Sand Canyon (NB Direct On-Ramp)
	Laguna Canyon (I-405 to SJHTC)	
ARTERIAL ROADWAYS	Laguna Canyon (south of El Toro)	IMPACTED FREEWAY SEGMENTS
Portola (Sand Canyon to Foothill Toll Road)	Culver (Bryan to Trabuco)	SR-55 (MacArthur to I-405)
Laguna Canyon (I-405 to SR-73)		SR-55 (south of SR-73)
Laguna Canyon (south of El Toro)	IMPACTED FREEWAY RAMPS	
Culver (Bryan to Trabuco)	I-5 at Culver (SB Off-Ramp)	
Michelson (Carlson to Harvard)	I-5 at Sand Canyon (NB On-Ramp)	
	I-5 at Sand Canyon (SB Off-Ramp)	
FREEWAY RAMPS	I-405 at Sand Canyon (NB Direct On-Ramp)	
I-5 at Culver (SB Off-Ramp)		
I-405 at Jamboree (SB Off-Ramp)	IMPACTED FREEWAY SEGMENTS	
I-405 at MacArthur (SB On-Ramp)	I-5 (Jeffrey to north of SR-55)	

Existing Conditions Deficient Highway Facilities	Existing Conditions Plus Proposed Project Impacts	Alternative F With Existing Plus Committed Facilities
I-405 at MacArthur (NB On-Ramp)		
I-405 at MacArthur (NB Off-Ramp)		
SR-55 at Dyer (SB On-Ramp)		
SR-55 at Dyer (NB Off-Ramp)		
SR-55 at MacArthur (SB Direct On-Ramp)		
SR-55 at MacArthur (NB Direct On-Ramp)		
SR-55 at MacArthur (SB Off-Ramp)		
FREEWAY SEGMENTS		
I-5 (Culver to north of SR-55)		
I-5 (Alton to I-405)		
I-5 (El Toro to La Paz)		
I-405 (MacArthur to SR-133)		
SR-55 (I-5 to SR-73)		

Abbreviations: NB-northbound EB-eastbound
SB-southbound WB-westbound

However, Table 8.6-2 indicates that under Alternative F traffic impacts will occur in the vicinity of JWA, while under the Proposed Project impacts will result primarily in the El Toro vicinity (refer to Section 11.0 in the 1999 Traffic Analysis Technical Report for detailed summaries of the Alternative F traffic volumes and LOS, as well as comparisons between existing plus committed conditions with and without Alternative F for intersections and arterial roadways within the traffic analysis study area, and refer to Section 11.0 in the 2001 Traffic Analysis Technical Report Addendum for comparable information for freeway/tollway mainline segments and freeway/tollway ramps within the traffic analysis study area).

A comparison of the impacts of Alternative F to the Proposed Project during the phasing years may also be made. As discussed in detail in Section 4.3.6.6 of this Draft EIR No. 573, as supplemented, under the Proposed Project phasing years, four intersection locations, two arterial roadway segments, one continuous freeway mainline segment and one freeway ramp would be significantly impacted under Phase 1 conditions (2005), five intersection locations, two arterial roadway segments, one continuous freeway mainline segment and one freeway ramp would be significantly impacted under Phase 2 conditions (2010), and nine intersection locations, two arterial roadway segments, one continuous freeway mainline segment and two freeway ramps would be significantly impacted under Phase 3 conditions (2015). At Phase 4 build out, the Proposed Project would result in significant impacts not previously identified to four freeway/tollway mainline segments and four freeway/tollway ramps. See Draft Supplemental Analysis Section 4.3.6.5. In each case, however, the identified impacts

will be mitigated to a level below significant during the applicable phasing year (see Section 4.3.7.2, Table 4.3-20).

In evaluating traffic impacts under Alternative F, the reader should keep in mind that approval of this alternative would lead to adoption of a nonaviation plan for the El Toro site such as the ETRPA Nonaviation Plan Alternative analyzed in Section 8.10.

8.6.4.4 Noise

Compared to existing conditions, this alternative would have no aviation noise impacts at the El Toro site, but would have greater adverse noise impacts at JWA than existing operations and the Proposed Project. Alternative F would increase the 60 and 65 CNEL contours at JWA from the 1998 contours somewhat, but not to the extent where they exceed those of the 1985 Master Plan contours. The number of individual commercial aircraft events will also increase substantially under this alternative. This alternative assumes that these operations would all be accommodated during existing operations hours, and no increase in the number of nighttime operations is expected under this alternative at JWA. However, the substantial increase in the number of operations may be considered a significant impact of Alternative F independent of the CNEL computation, as it was for El Toro under the Proposed Project and various other alternatives. The number of affected residences inside the 60 and 65 dB CNEL contours is greater under Alternative F than either existing conditions or the Proposed Project (Table 8.4-4).

In conclusion, this Alternative would avoid aircraft noise impacts at the El Toro site. Also see Figure 8-7, which depicts noise contours for Alternative F.

Adoption of this alternative would probably lead to approval of a nonaviation land use plan for the El Toro site, such as the ETRPA Nonaviation Alternative. For analysis of the noise impacts of a nonaviation land use plan, refer to Section 8.3.

8.6.4.5 Air Quality

As described below, Alternative F would result in: 1) significant unavoidable short-term construction impacts greater than under the Proposed Project; 2) significant regional impacts greater than the Proposed Project under all development scenarios due to Orange County generated demand being serviced at other regional airports outside of the County similar to the No Project/No Alternative; and 3) significant local air quality impacts at JWA greater than the Proposed Project resulting from aircraft operations at JWA. This alternative, however, would avoid the significant local air quality impacts of the Proposed Project resulting from aircraft emissions at OCX. This alternative may, however, result in the adoption of a nonaviation plan for the El Toro site that could have local CO hot spot impacts greater than the Proposed Project.

Short-Term (Construction) Impacts

Under this alternative, there would be a facility expansion and runway extension at JWA. Construction emissions would be greater than those of the Proposed Project at JWA. With respect to MCAS El Toro, this alternative may lead to the adoption of a nonaviation alternative similar to the ETRPA Nonaviation Alternative. Construction emission impacts at MCAS El Toro under this scenario could be greater than those of the Proposed Project due to higher density or intensity land uses being proposed. Therefore, this alternative would result in significant and unavoidable construction emissions that could be greater than the Proposed Project under all development scenarios and would not avoid or substantially lessen impacts compared to the Proposed Project.

Operational Air Quality Impacts

Emissions Inventories

Under this alternative, total annual passenger and total annual aircraft LTO operations at JWA would be greater than those of the Proposed Project. Alternative F's direct air pollutant emissions associated with airport operations, including aircraft, GSE, energy consumption, and vehicular trips, are shown below in Table 8.6-3.

When compared to the direct air quality emissions associated with the Proposed Project at build out, Alternative F would have greater CO, NO_x, and PM₁₀ emissions at JWA but lower ROC emissions.

Air pollutant emissions, including airport operations at other airports in the region and VMT required for air travel passengers to get to these airports, are shown in Table 8.6-4 for this alternative. The regional air quality impacts under this alternative would be significant and would be greater than under the Proposed Project. These regional air quality impacts, however, would be less than under the No Project Alternative.

**Table 8.6-3
Phase 4 Alternative F – Project Direct Air Pollutant Emissions (Pounds/Day)**

	CO	NO_x	ROC¹	SO_x	PM₁₀
Aircraft	2,073.72	5,146.14	205.17	349.98	65.49
OCX	--	--	--	--	--
JWA	2,073.72	5,146.14	205.17	349.98	65.49
GSE/APU	9,605.97	622.45	246.59	15.13	26.49
OCX	--	--	--	--	--
JWA	9,605.97	622.45	246.59	15.13	26.49
Fuel Storage/Dispensing	--	--	4.76	--	--
OCX	--	--	--	--	--
JWA	--	--	4.76	--	--
Airport Roadways	198.12	26.61	7.23	1.21	2.10
OCX	--	--	--	--	--
JWA	198.12	26.61	7.23	1.21	2.10
Airport Parking	154.99	12.02	16.02	4.90	0.47
OCX	--	--	--	--	--
JWA	154.99	12.02	16.02	4.90	0.47
Energy Consumption	52.80	303.60	2.80	31.10	10.40
OCX	--	--	--	--	--
JWA	52.80	303.60	2.80	31.10	10.40
Vehicular Traffic	7,417	3,000	583	185	1,535
OCX	--	--	--	--	--
JWA	7,417	3,000	583	185	1,535
Total	19,502	9,111	1,066	587	1,640

Source: CH2M Hill and LSA Associates, Inc., 2001

¹ ROC emissions obtained by multiplying HC emissions reported by EDMS by a factor of 1.14.

**Table 8.6-4
Regionwide Emissions Inventory Alternative F Phase 4
(Pounds/Day Unless Noted)**

		CO	NO_x	ROC	SO_x	PM₁₀
Aircraft	El Toro	--	--	--	--	--
	JWA	2,073.72	5,146.14	205.17	349.98	65.49
	Other Airports	78,722.06	80,454.54	10,959.04	6,126.26	887.12
	Total Regional	80,795.78	85,600.68	11,164.21	6,476.24	952.61
GSE	El Toro	--	--	--	--	--
	JWA	9,605.97	622.45	246.59	15.13	26.49
	Other Airports	102,215.15	10,264.12	3,024.28	664.81	376.36
	Total Regional	111,821.12	10,886.57	3,270.87	679.94	402.85
Energy	El Toro	--	--	--	--	--
	JWA	52.80	303.60	2.80	31.10	10.40
	Others	620.00	3,568.00	33.00	365.00	122.00
	Total Regional	672.80	3,871.60	35.80	396.10	132.40
Fuel	El Toro	--	--	--	--	--
	JWA	--	--	4.76	--	--
	Other Airports	--	--	535.63	--	--
	Total Regional	--	--	540.39	--	--
Airport Roadways	El Toro	--	--	--	--	--
	JWA	198.12	26.61	7.23	1.21	2.10
	Other Airports	3,524.86	715.29	162.18	43.04	58.49
	Total Regional	3,722.98	741.90	169.41	44.25	60.59
Airport Parking	El Toro	--	--	--	--	--
	JWA	154.99	12.02	16.02	4.90	0.47
	Other Airports	2,203.37	189.72	30.42	58.51	23.10
	Total Regional	2,358.36	201.74	46.44	63.41	23.57
Roads	El Toro	--	--	--	--	--
	JWA	7,417.00	3,000.00	583.00	185.00	1,535.00
	Others Airports ¹	2,768,580.00	493,807.00	71,290.00	48,891.00	8,292.00
		2,755,707.00	491,238.00	69,753.00	49,058.00	8,311.00
	Total Regional¹	2,775,997.00	496,807.00	71,873.00	49,058.00	9,827.00
		2,763,124.00	494,238.00	70,336.00	49,243.00	9,846.00
TOTAL (pounds/day)		2,975,368.04	598,109.49	87,100.12	56,717.94	11,399.02
		2,962,495.04	595,540.49	85,563.12	56,902.94	11,418.02
Change from 2020 No Project (pounds/day)		(3,994.56)	(1,483.87)	(478.16)	(172.32)	(20.38)
		(8,521.56)	(2,459.01)	(1,006.53)	(99.32)	(9.95)
SCAQMD Threshold for Operation (pounds/day)		550	55	55	150	150

Source: LSA Associates, Inc., 2001.

¹ Typographical correction.

Dispersion Modeling

At intersections in the vicinity of the project sites, the CAL3QHC model was used to assess the CO concentrations for Alternative F. Tables 8.6-5 and 8.6-6 show that the 1-hour and 8-hour CO concentrations would be below the State and federal CO standards. No CO hot spots would occur from vehicular traffic trips caused by this alternative.

Toxic Air Contaminant Impacts

This alternative would avoid impacts at the El Toro site but would increase impacts at the JWA site. Impacts would be reduced with the mitigation measures recommended for the project but are anticipated to remain significant after mitigation.

8.6.4.6 Topography

Under Alternative F the main runway at JWA (Runway 19R-1L) would be extended 1,100 feet to the north; however, no expansion of overall airport acreage is planned. Under Alternative F, terminal expansion would potentially require minor grading, but because the site is essentially flat, there would be no significant impact related to topography. Therefore, Alternative F would not be expected to result in adverse impacts related to topography at JWA, similar to the result found for the Proposed Project. As noted above, approval of this alternative would lead to the adoption of a nonaviation alternative for the El Toro site. Therefore, this alternative would not avoid or substantially lessen the impacts of the project.

8.6.4.7 Soils, Geology and Seismicity

This alternative would implement improvements at JWA within the existing developed area of the site. Therefore, no significant impacts related to soils, geology, or seismicity would occur, similar to the Proposed Project. Under Alternative F the main runway at JWA (Runway 19R-1L) would be extended 1,100 feet to the north; however, no expansion of overall airport acreage is planned. Therefore, Alternative F would not result in adverse impacts related to soils, geologic features or seismicity, similar to the Proposed Project. No aviation uses would be developed at the El Toro site. However, this alternative would lead to the adoption of a nonaviation plan for the El Toro site and would not, therefore, avoid or substantially lessen impacts of the project.

**Table 8.6-5
Phase 4 Alternative F – Predicted One Hour Ambient Carbon Monoxide Concentration
for Intersections with the Highest Volume and Worst Level of Service (LOS)**

INT#	INTERSECTING STREETS	REC1 ¹	REC2 ²	REC3 ³	REC4 ⁴	REC5 ⁵	REC6 ⁶	REC7 ⁷	REC8 ⁸	REC9 ⁹	REC10 ¹⁰	REC11 ¹¹	REC12 ¹²
CITY OF ORANGE¹³													
345	Jamboree & Chapman	7.0	7.0	7.2	7.0	7.0	7.2	6.8	7.2	6.8	6.8	6.7	6.6
CITY OF SANTA ANA¹⁴													
154	MacArthur & Main	7.1	7.2	7.2	7.3	7.0	6.9	6.9	7.1	6.9	7.0	6.7	6.9
152	Main & Sunflower	7.0	7.1	6.8	7.1	6.7	7.0	6.6	6.5	6.7	6.8	7.1	6.9
90	Grand & Edinger	6.9	7.0	7.0	7.3	7.0	7.1	6.7	6.9	6.6	7.0	6.9	6.7
CITY OF TUSTIN¹³													
93	Newport & Edinger	7.2	7.1	6.8	7.2	6.7	6.6	6.6	6.7	6.7	7.0	6.6	6.9
115	Von Karman & Barranca	7.0	7.1	7.1	6.9	6.6	7.1	6.7	6.9	6.6	6.5	6.7	7.0
95	Tustin Ranch & Edinger	7.2	7.0	6.9	7.1	6.7	6.9	6.6	6.7	6.9	6.9	6.6	7.0
CITY OF IRVINE¹⁴													
116	Jamboree & Barranca	5.9	6.0	5.6	5.7	5.3	5.5	5.3	5.5	5.5	5.4	5.5	5.9
156	Jamboree & Main	5.7	5.7	5.7	5.4	5.2	5.4	5.3	5.4	5.3	5.4	5.4	5.7
134	Jamboree & Alton	5.6	5.6	5.7	5.5	5.2	5.5	5.2	5.4	5.4	5.4	5.4	5.7
98	Culver & Irvine Center	5.6	5.6	5.7	5.7	5.2	5.4	5.4	5.5	5.3	5.5	5.4	5.5
175	Jamboree & Michelson	5.7	5.4	5.4	5.6	5.1	5.3	5.3	5.3	5.3	5.4	5.4	5.4
151	Red Hill & MacArthur	5.7	5.5	5.5	5.6	5.0	5.4	5.4	5.4	5.3	5.4	5.3	5.7
155	Von Karman & Main	5.5	5.7	5.8	5.5	5.3	5.7	5.2	5.3	5.3	5.4	5.3	5.5
153	Red Hill & Main	5.5	5.6	5.5	5.6	5.2	5.4	5.2	5.3	5.2	5.2	5.2	5.2
174	Von Karman & Michelson	5.4	5.4	5.3	5.2	5.0	5.1	5.1	5.0	5.0	5.2	5.0	5.3
186	MacArthur & Campus	5.7	5.4	5.4	5.5	5.0	5.1	5.1	5.2	5.2	5.2	5.1	5.3
177	Culver & Michelson	5.4	5.5	5.2	5.2	5.0	5.2	5.1	5.0	5.1	5.1	5.3	5.4
CITY OF LAGUNA BEACH¹⁴													
299	Moulton & El Toro	5.4	5.4	5.4	5.5	5.1	5.3	5.2	5.4	5.0	5.3	5.1	5.1
CITY OF LAGUNA HILLS¹⁴													
280	El Toro & Avd. Carlota	5.4	5.4	5.4	5.3	5.0	5.3	5.0	5.1	5.2	5.2	5.1	5.3

Note: * - Concentrations are in parts per million (ppm)
1 - REC1 SW CORNER
2 - REC2 SE CORNER
3 - REC3 NE CORNER
4 - REC4 NW CORNER
5 - REC5 S. DEPARTURE - MID BLOCK
6 - REC6 N. APPROACH - MID BLOCK
7 - REC7 E. DEPARTURE - MID BLOCK
8 - REC8 W. APPROACH - MID BLOCK
9 - REC9 N. DEPARTURE - MID BLOCK
10 - REC10 S. APPROACH - MID BLOCK
11 - REC11 W. DEPARTURE - MID BLOCK
12 - REC12 E. APPROACH - MID BLOCK
13 - The ambient one-hour CO concentration, 6.1 ppm, obtained by multiplying a rollback factor to the second highest one-hour CO concentration at the nearest air monitoring station, Central Orange County Air Monitoring Station between the years 1996 to 2000, is added to the calculated one hour levels.
14 - The ambient one-hour CO concentration, 4.6 ppm, obtained by multiplying a rollback factor to the second highest one-hour CO concentration at the nearest air monitoring station, Saddleback Valley Air Monitoring Station between the years 1996 to 2000, is added to the calculated one hour levels.

**Table 8.6-6
Phase 4 Alternative F – Predicted Eight Hour Ambient Carbon Monoxide Concentration
for Intersections with the Highest Volume and Worst Level of Service (LOS)**

INT#	INTERSECTING STREETS	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12
CITY OF ORANGE¹³													
345	Jamboree & Chapman	5.2	5.2	5.4	5.2	5.2	5.4	5.1	5.4	5.1	5.1	5.0	5.0
CITY OF SANTA ANA¹³													
154	MacArthur & Main	5.3	5.4	5.4	5.4	5.2	5.2	5.2	5.3	5.2	5.2	5.0	5.2
152	Main & Sunflower	5.2	5.3	5.1	5.3	5.0	5.2	5.0	4.9	5.0	5.1	5.3	5.2
90	Grand & Edinger	5.2	5.2	5.2	5.4	5.2	5.3	5.0	5.2	5.0	5.2	5.2	5.0
CITY OF TUSTIN¹³													
93	Newport & Edinger	5.4	5.3	5.1	5.4	5.0	5.0	5.0	5.0	5.0	5.2	5.0	5.2
115	Von Karman & Barranca	5.2	5.3	5.3	5.2	5.0	5.3	5.0	5.2	5.0	4.9	5.0	5.2
95	Tustin Ranch & Edinger	5.4	5.2	5.2	5.3	5.0	5.2	5.0	5.0	5.2	5.2	5.0	5.2
CITY OF IRVINE¹⁴													
116	Jamboree & Barranca	3.8	3.9	3.6	3.7	3.4	3.5	3.4	3.5	3.5	3.5	3.5	3.8
156	Jamboree & Main	3.7	3.7	3.7	3.5	3.3	3.5	3.4	3.5	3.4	3.5	3.5	3.7
134	Jamboree & Alton	3.6	3.6	3.7	3.5	3.3	3.5	3.3	3.5	3.5	3.5	3.5	3.7
98	Culver & Irvine Center	3.6	3.6	3.7	3.7	3.3	3.5	3.5	3.5	3.4	3.5	3.5	3.5
175	Jamboree & Michelson	3.7	3.5	3.5	3.6	3.3	3.4	3.4	3.4	3.4	3.5	3.5	3.5
151	Red Hill & MacArthur	3.7	3.5	3.5	3.6	3.2	3.5	3.5	3.5	3.4	3.5	3.4	3.7
155	Von Karman & Main	3.5	3.7	3.7	3.5	3.4	3.7	3.3	3.4	3.4	3.5	3.4	3.5
153	Red Hill & Main	3.5	3.6	3.5	3.6	3.3	3.5	3.3	3.4	3.3	3.3	3.3	3.3
174	Von Karman & Michelson	3.5	3.5	3.4	3.3	3.2	3.3	3.3	3.2	3.2	3.3	3.2	3.4
186	MacArthur & Campus	3.7	3.5	3.5	3.5	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.4
177	Culver & Michelson	3.5	3.5	3.3	3.3	3.2	3.3	3.3	3.2	3.3	3.3	3.4	3.5
CITY OF LAGUNA BEACH¹⁴													
299	Moulton & El Toro	3.3	3.5	3.5	3.5	3.3	3.4	3.3	3.5	3.2	3.4	3.3	3.3
CITY OF LAGUNA HILLS¹⁴													
280	El Toro & Avd. Carlota	3.5	3.5	3.5	3.4	3.2	3.4	3.2	3.3	3.3	3.3	3.3	3.4

Note: * - Concentrations are in parts per million (ppm)

1 - REC1 SW CORNER

2 - REC2 SE CORNER

3 - REC3 NE CORNER

4 - REC4 NW CORNER

5 - REC5 S. DEPARTURE - MID BLOCK

6 - REC6 N. APPROACH - MID BLOCK

7 - REC7 E. DEPARTURE - MID BLOCK

8 - REC8 W. APPROACH - MID BLOCK

9 - REC9 N. DEPARTURE - MID BLOCK

10 - REC10 S. APPROACH - MID BLOCK

11 - REC11 W. DEPARTURE - MID BLOCK

12 - REC12 E. APPROACH - MID BLOCK

13 - The ambient eight-hour CO concentration, 4.6 ppm, obtained by multiplying a rollback factor to the second highest eight-hour concentration at the nearest air monitoring station, Central Orange County Air Monitoring Station between the years of 1996 to 2000, is added to the product of the calculated one-hour levels multiplied by a persistent factor of 0.7.

14 - The ambient eight-hour CO concentration, 2.9 ppm, obtained by multiplying a rollback factor to the second highest eight-hour concentration at the nearest air monitoring station, Saddleback Valley Air Monitoring Station between the years of 1996 to 2000, is added to the product of the calculated one-hour levels multiplied by a persistent factor of 0.7.

8.6.4.8 Hydrology and Water Quality

Since all improvements would occur within the existing developed area of JWA, this alternative will incur hydrology and water quality impacts at JWA similar to the Proposed Project. No aviation uses would be developed at the El Toro site. However, this alternative would lead to adoption of a nonaviation plan for the El Toro site and would not, therefore, avoid or substantially lessen impacts of the project.

8.6.4.9 Biological Resources

Since the biological resource component at JWA is very limited, no direct or indirect impacts would be expected at JWA under Alternative F. For indirect impacts, the biological resource issues would not be substantially different from the Proposed Project. There would be some slight differences in impacts as a result of noise exposure and aircraft overflights since the aircraft operations differ at JWA. Noise and overflight characteristics are different between Alternative F and the Proposed Project, because the 60 CNEL contour is longer for Alternative F. However, this difference would not result in adverse impacts to biological resources in the Newport Back Bay. This alternative would not, therefore, avoid or substantially lessen the impacts of the project.

8.6.4.10 Public Services and Utilities

This alternative would have greater adverse impacts at JWA than the Proposed Project. Due to the plan to expand JWA in Alternative F, a need for increased fire and emergency medical, police services, and transit to the area would likely arise. Like the Proposed Project, mitigation measures prescribed in section 4.10 (Public Services and Utilities) would reduce staffing impacts to below a level of significance.

As described in Section 4.10 (Public Services and Utilities), the Proposed Project is not anticipated to result in significant adverse impacts related to utilities. Alternative F could also be served with utilities without significant adverse impacts after mitigation, similar to conditions under the Proposed Project. Depending on the specific land uses and utility services and infrastructure needs associated with Alternative F, a utility infrastructure different from that anticipated under the Proposed Project may be necessary to most effectively provide utility services under this alternative. Mitigation similar to that for the Proposed Project would reduce adverse impacts of this alternative related to utilities infrastructure and services to below a level of significance. This alternative would not avoid or substantially lessen the impacts of the project.

8.6.4.11 Natural Resources and Energy

This alternative would have greater adverse impacts at JWA than the Proposed Project. As discussed in Section 4.11 (Natural Resources and Energy), the Proposed Project would not result in significant adverse impacts related to natural resources, with the exception of significant adverse impacts to agricultural resources on the El Toro site, which could not be mitigated to below a level of significance. This alternative could reduce or avoid the project impacts on agricultural soils depending on the reuse alternative selected for the El Toro site. Section 8.3 analyzes the impacts of a nonaviation alternative for the El Toro site. There are no natural or agricultural resources at JWA.

Implementation of the Proposed Project also would result in a less than significant increase in regional energy consumption, associated primarily with construction and operation of a new international airport at the MCAS El Toro site, as compared to existing conditions. Under this alternative, the temporary increase in energy consumption associated with construction activities at MCAS El Toro would be replaced by a lower level of effort to expand JWA. From a regional standpoint, this alternative also would realize lower energy consumption levels associated with airport operations compared with the two-airport system of the Proposed Project. This energy savings would be offset somewhat, however, by increased highway travel, as the shortfall in forecasted demand for air travel service forces air travelers to drive to other airports within the region than would be required with the Proposed Project.

The ultimate build out and phased development of Alternative F would require more intense construction efforts, and entail a higher level of operations at JWA than the Proposed Project. Therefore, the impacts related to natural resources and energy would be greater to JWA under Alternative F because of the higher level of operations and higher energy consumption. In conclusion, this alternative would not avoid or substantially lessen impacts compared to the project.

8.6.4.12 Aesthetics, Light and Glare

This alternative would have greater impacts at JWA compared to the Proposed Project. With mitigation measures, the impacts of this alternative would be reduced but would remain significant. This alternative would lead to adoption of a nonaviation reuse plan for the El Toro site similar to the ETRPA Nonaviation Alternative. Refer to Section 8.3 for an analysis of this alternative.

Physical changes to the JWA site under Alternative F include extension of the main commercial runway (Runway 1L-19R) from 5,700 feet to 6,800 feet, which is the maximum extension allowable within the existing property boundary of the airport. The existing terminal concourse would be lengthened by several hundred feet on the north and south ends to provide additional aircraft gates. An additional terminal would be created to the south and connected to the existing terminal. Additional parking would be provided in all

remaining areas around the new terminal, and additional long-term parking would be provided in the general aviation areas on the southeast and southwest of the airport. Additional off-site parking would likely be necessary for this alternative. Expansion of access roadways to JWA would be necessary to accommodate the expanded passenger service under Alternative F. Expansions would potentially include the existing direct access from SR-55, Campus Drive, and MacArthur Boulevard at Michelson Drive.

Alternative F would increase the intensity of development on and around the JWA site, whereas the Proposed Project would make no substantial aesthetic changes to the site (a slight reduction of commercial service is proposed). The potential effects of light and glare under this alternative would be greater than those of the Proposed Project due to the increased services at the airport, especially evening (the nighttime curfew is assumed to continue for commercial flights) aircraft light and glare impacts on nearby residential areas (e.g. Santa Ana Heights). Ground level light and glare impacts would be reduced to a level of insignificance with County Standard Condition of Approval LG 1. In conclusion, this alternative would not avoid or substantially lessen impacts compared to the project at the JWA site.

8.6.4.13 Cultural Resources

Improvements at JWA under Alternative F would occur within the physical confines of the existing airport site. Like the Proposed Project, there would be no additional or new effects on cultural resources since there are no known archaeological, paleontological or historic resources on the already developed JWA airport property. Approval of this alternative would lead to adoption of a nonaviation plan for the El Toro site, which could potentially impact cultural resources more than the Proposed Project. Therefore, this alternative would not avoid or substantially lessen impacts compared to the project.

8.6.4.14 Recreation

Under Alternative F, noise impacts on the use of area recreational facilities in the JWA area would increase due to the enlarged 65 dB CNEL contours resulting from the increased commercial aviation and cargo services under this alternative. This alternative would avoid aviation noise impacts on recreation uses at the El Toro site but would increase aviation impacts from aircraft noise on the use of trails, parks, and other recreational facilities at the JWA site. Approval of this alternative would lead to adoption of a nonaviation plan for the El Toro site similar to the ETRPA Nonaviation Alternative. Refer to Section 8.3 for an analysis of the nonaviation plan impacts.

8.6.4.15 Public Health and Safety

Aviation Safety

Compared to the Proposed Project, under Alternative F there would be an increase of approximately 97,900 air carrier and air cargo operations and a decrease of approximately 352,400 general aviation operations at JWA. Under this scenario, the potential air carrier and air cargo accident risks at JWA would increase by approximately 145.0% to reflect the number of increasing aviation activity diverted from OCX to JWA. The potential accident risks for general aviation at JWA would decrease by 98.2%. Since there is no aviation activity at OCX under this alternative, there would be zero aviation risks. Compared to the Proposed Project relative to on-airport and off-airport fatal accidents per million operations, there would be no significant adverse impacts under this alternative related to aviation safety at the MCAS El Toro site or at JWA.

Compared to the existing conditions, there would be an increase of approximately 75,392 air carrier and air cargo operations and a decrease of approximately 321,024 general aviation operations at JWA. Under this scenario, the potential air carrier and air cargo accident risks at JWA would increase by approximately 83.8% to reflect the number of increasing operations and the potential general aviation accident risks would decrease by 98.0% correspondingly.

8.6.4.16 Hazardous Materials and Hazardous Wastes

Under this alternative, aviation facilities would be expanded to the maximum available capacity within the existing airport property limits at JWA. Hazardous waste handling practices would remain unchanged at JWA; however, an increase in hazardous materials consumption, particularly jet fuel, commensurate with the expansion of aviation facilities would result.

Like the Proposed Project, any use of hazardous materials and/or generation of hazardous waste at JWA under Alternative F would be regulated by applicable State law, federal law, and regulations pertaining to worker protection, hazardous materials storage and use, and hazardous waste generation and disposal. Implementation of these regulations will reduce potential impacts associated with the presence of these hazardous substances to below a level of significance. This alternative would lead to adoption of a nonaviation alternative at the El Toro site similar to the ETRPA Nonaviation Alternative. Refer to Section 8.3 for an analysis of nonaviation impacts.

8.6.4.17 Socioeconomics

Under this alternative, 8,500 jobs would be generated at JWA in 2020, which represents a net increase of 6,400 jobs at JWA over existing 1998 conditions. The number of jobs generated at JWA under this alternative would therefore be substantially greater, at approximately 5,200 jobs, than the number of jobs generated at JWA under the Proposed Project. Under this alternative, it is assumed that the MCAS El Toro site would develop with a range of nonaviation uses similar to those shown in the ETRPA Nonaviation Plan. This development would result in an estimated 50,700 jobs, 13,600 persons, and 5,900 housing units being located on the site in 2020. This level of activity is significantly higher than the level anticipated under the Proposed Project. In total, this alternative is projected to generate 59,000 jobs, 13,600 persons, and 5,900 housing units on the project site. This figure is significantly higher than the number of jobs, persons, and housing units expected under the Proposed Project.

As with the Proposed Project, economic activity on the JWA and MCAS El Toro sites, as well as expenditures by visitors arriving by air at JWA, would stimulate additional off-site job growth. Given the higher total number of on-site jobs for MCAS El Toro and JWA and the lower number of air passengers served by this alternative, the number of off-site jobs stimulated by the airport system could be similar to the Proposed Project.

Given the greater number of jobs generated under Alternative F, at 59,000 jobs versus 29,500 jobs under the Proposed Project, the magnitude of impacts related to induced growth or concentration of population and employment in the area, and increasing demand for housing, including low and moderate income housing, would be significantly higher than under the Proposed Project. However, the additional demand for housing created by project related employment would be partially offset by the housing to be developed on the MCAS El Toro site under this alternative. The employment, population, and housing projections under Alternative F would also be inconsistent with the adopted regional forecasts, as under the Proposed Project. In conclusion, this alternative would not avoid or substantially lessen Proposed Project impacts.

8.6.4.18 Risk of Upset

The ultimate build out and phased development of this alternative would entail no aviation reuse at the El Toro site and a market-driven increase in operations at JWA. General aviation operations would be eliminated and the main JWA runway would be extended to accommodate expanded commercial service.

This alternative would generate an increase in demand for jet fuel at JWA, as well as associated tank truck jet fuel transport operations since JWA (unlike OCX) is not served by pipelines. Additional requirements for fuel storage capacity on the JWA site also would be required. Under this circumstance, the risk of upset potential at JWA would be higher than under the Proposed Project. As discussed in Section 4.18 (Risk of Upset), the Proposed

Project would not result in significant adverse impacts to public health and safety resulting from project-related risk of upset conditions after mitigation. Therefore, this alternative would not avoid or substantially lessen impacts compared to the project at JWA, but would avoid aviation impacts at the El Toro site.

8.6.5 Feasibility

This alternative is feasible from a physical standpoint in that the existing main runway can be extended to serve the intended market role (short- and medium-haul and limited long-haul). The existing short general aviation runway can also be converted to a taxiway. The existing terminal building can be expanded to accommodate the projected demand. The present facilities can be expanded to meet projected demand in this alternative with some exceptions. Some vehicle parking would be located off-airport. In addition, facilities for in-flight catering would be located off-airport. No space would be available at the airport for aircraft maintenance.

From an operational standpoint, the single runway for JWA is capable of supporting a limited long-haul market role. However, it is not feasible for the runway in this alternative to accommodate operations by unlimited long-haul or full international service. General aviation operations can be accommodated on a very limited basis, however, the more than 500 JWA based general aviation aircraft must be relocated to other general aviation airports in the region. Furthermore, since the airport would be reduced to a single runway, it could be subject to periods of closure if the runway was under repair or otherwise unusable.

From a market perspective, the alternative allows some growth in passenger service beyond today's passenger levels and some growth in all-cargo service. It does not accommodate a substantial portion of Orange County's long-term air travel needs, including general aviation demand.

The costs for Alternative F, described in ASMP Technical Report 6, Volume 2, Appendix D are described as "order of magnitude" because they were prepared without the benefit of a master plan. They can be used, however, in a general comparison with the capital costs of the Proposed Project. The order of magnitude cost for Alternative F was estimated at \$350 million. The net revenue for this alternative would be expected to be less than other aviation "build" alternatives due to the lower level of airport activity.

In conclusion, this alternative would be physically feasible, but would result in operational and development limitations, and would not meet the market objectives of the project.

8.6.6 Conclusions

Alternative F does not:

- Encourage growth of air service opportunities;
- Implement two airport system;
- Enhance GA opportunities for O.C. residents; and
- Take advantage of existing land use restrictions.

In comparison to the Proposed Project, Alternative F would result in significant regional air quality impacts and short-term construction impacts greater than the Proposed Project, greater local air quality impacts at JWA compared to the Proposed Project, and additional land use impacts, traffic impacts, noise impacts, public services and utilities impacts, natural resources and energy impacts, and aesthetics, light and glare impacts at JWA than under the Proposed Project.

This alternative would lead to adoption of a nonaviation alternative for the El Toro site similar to the ETRPA Nonaviation Alternative. Refer to Section 8.3 for conclusions regarding nonaviation uses.

8.7 ALTERNATIVE G: JWA – LIMITED INTERNATIONAL; NO AVIATION REUSE AT FORMER MCAS EL TORO

This section presents the potential impacts of Alternative G as measured against the existing setting, as well as a comparison of the alternative's impacts to those of the Proposed Project at build out. In those instances in which the comparison of the alternative to the Proposed Project is materially affected by the phasing of the project, i.e., in those instances in which the impacts of the Proposed Project during the phasing years are materially different from those impacts at year 2020, a comparison of the alternative's impacts to those of the Proposed Project for the applicable phasing year is also provided.

This alternative was selected for analysis because it has the potential to avoid aircraft noise and aircraft air quality emission impacts at the El Toro site while still feasibly attaining some of the objectives of the Proposed Project.

8.7.1 Aviation Uses

In Alternative G, the former MCAS El Toro is assumed to be a nonaviation use and JWA provides short, medium, and long-haul domestic and international air passenger service for an estimated 25.0 MAP, nine percent (2.2 MAP) of which are passengers with connecting flights. JWA is also forecast to annually handle approximately 40.0 thousand tons of international cargo and 1.23 million tons of domestic cargo. JWA would not be constrained by existing limits on passengers or aircraft operations under this alternative, and it is assumed that the airport would accommodate all of the demand in these categories projected for the airport beyond 2005 (estimated to be approximately 25 MAP in 2020 as described in the ASMP). To enable the airport to handle this demand, a major program for the acquisition of property would be required. Property to be acquired would include existing developed property north of JWA, extending the airport boundary west to SR-55, and a triangular shaped area to the east bound by Campus Drive, MacArthur Boulevard, Bristol Street, and Jamboree Road. New runway facilities, terminal facilities, parking, cargo facilities, and support facilities would be necessary. The closure of the general aviation runway, a 2,300-foot extension to the main runway, and a new 6,700-foot runway are envisioned in this alternative to accommodate the projected demand. Alternative G would include 52 jet aircraft gates, 11 commuter aircraft gates, 29 RON aircraft parking spaces, 21,500 vehicle parking spaces, and 1.84 million square feet of terminal area (Figure 8-8 depicts Alternative G). There would be no aviation reuse of MCAS El Toro.

Under this alternative, there would be no aviation reuse of MCAS El Toro. Accordingly, the environmental analysis of this alternative focuses on the impacts of the alternative at JWA. However, if Alternative G were selected and implemented, it would lead to adoption of a nonaviation plan for the El Toro site, possibly one similar to the ETRPA Nonaviation Alternative analyzed in Section 8.3. To understand the full impacts of Alternative G along

with the ETRPA Nonaviation Alternative, for example, the reader should review the impacts of both alternatives as addressed in this section.

8.7.2 Nonaviation Revenue Support Uses

Alternative G does not propose nonaviation uses at JWA and does not include physical changes at El Toro. However, as noted above, approval of Alternative G lead to the adoption of nonaviation uses at El Toro, possibly similar to the ETRPA Nonaviation Plan Alternative addressed in Section 8.3.

8.7.3 Attainment of Project Objectives

This alternative would not meet the general project objectives for reuse of MCAS El Toro. Alternative G will further most of the aviation related objectives, but not to the same extent as the Proposed Project. This alternative does not meet the general aviation objectives. It will have a major impact on general aviation as the more than 500 general aviation aircraft now at JWA would have to be relocated. This alternative will not meet the existing land use or General Plan implementation aviation objectives. This alternative does not encourage service opportunities such as international service, and this alternative does not implement the two airport system to avoid impacts of a single system.

8.7.4 Environmental Impacts of Alternative G

8.7.4.1 Land Use

This alternative would have no land use impacts at the MCAS El Toro site since all development would occur at JWA. This alternative would have significant adverse land use impacts at JWA.

Under Alternative G, JWA would be expanded to accommodate 25 MAP, requiring the acquisition of a considerable amount of developed land outside the current property boundary. The land acquisition would occur primarily to the west, extending the JWA boundary to SR 55, and to the southeast, adding a large triangular shaped area south of Campus Drive and MacArthur Boulevard.

There are residential land uses west of SR 55, the western boundary of JWA under Alternative G. Alternative G proposes 60 acres of parking at JWA along SR 55. Parking lot lighting has the potential to be a significant impact to the nearby residential uses, if not appropriately mitigated. The residences would not be directly impacted by the airport expansion, as the existing freeway separates the two uses.

JWA acquisition to the southeast under this alternative would include the addition of a triangular shaped area of land bound by Campus Drive, MacArthur Boulevard, and Bristol

Street. A small portion of this area would front on Jamboree Road. The existing land uses in this triangular area are primarily commercial, offices and light industrial. A large number of businesses, primarily commercial offices, would be displaced. Campus Drive and Birch Street would no longer extend through this area under Alternative G.

The existing JWA boundary along Campus Drive south of the MacArthur intersection places the existing airport facilities across the street right-of-way from business park uses, generally office and light industrial. The acquisition of the additional area east of Campus Drive would result in a similar situation, with business park uses across from the MacArthur Boulevard boundary of the acquisition area. Under this alternative, the SR 73/Bristol Street boundary of JWA is extended further south. The Bristol Street right-of-way forms a large barrier between the airport uses in the acquisition area and the Bristol Street commercial frontage and residential uses behind the frontage.

The extended runways needed under Alternative G will result in an extension of the ROFA area to the south and the tunneling of SR 73 under the ROFA. The significant transportation improvements needed in this area may result in the acquisition of additional properties along Bristol Street, and potentially impact the business frontage, the existing golf course, and possibly the residential areas behind the gold course. The extent of these impacts is not known at this time, but they are potentially significant.

The existing long-term parking to the north of JWA and the 405 freeway would remain. Some additional property acquisition for parking could be required. The primary potential off-site effects of the long-term parking use are nighttime lighting and vehicular noise, which do not conflict with the typical daytime use of nearby office buildings; therefore, the long-term parking use is compatible in the business park setting where it is located.

The land acquisition needed for the extension of the ROFA to the south and related transportation improvements under this alternative would involve the acquisition of property south of Bristol Street. In addition, two major JWA acquisition areas, west to SR 55 and southeast to SR 73, involve the displacement and relocation of a large number of existing businesses. The extent of the acquisition south of Bristol and the related impacts are not known at this time. The two major acquisitions to the west and southeast will disrupt businesses, but will not disrupt or divide residential communities, because there are no residences in these areas and, therefore, no established residential neighborhoods.

The new boundaries of JWA under this alternative are major streets or highways, including SR 55 on the west and SR 73/Bristol Street and MacArthur Boulevard on the east. These major streets create a physical separation between the JWA acquisition areas and adjacent uses. The adjacent uses across MacArthur Boulevard are primarily office and light industrial that would not be significantly affected by operational characteristics of the airport, such as stationary noise sources, periodic emissions of fumes or odors related to engine startups or testing, and lighting for nighttime activities. The land uses across SR73/Bristol are primarily community commercial uses with residential neighborhoods behind the Bristol Street frontage. The land use impacts associated with this alternative, such as stationary

noise, fumes, and lighting, may exceed the threshold of significance by creating substantial incompatibilities between this alternative's land uses and adjacent existing and planned land uses. These impacts may be mitigatable through such measures as screen walls, light fixture hoods and/or automatic timers, the careful placement of buildings and building openings, and other measures.

Overall, the land use impacts of Alternative G on the JWA area are greater than those of the Proposed Project. With respect to El Toro, as noted above, this alternative would lead to adoption of a nonaviation plan for the El Toro site. If for example, the ETRPA Nonaviation Alternative were adopted, this would result in land use impacts at the El Toro site greater than the Proposed Project. Therefore, this alternative would not avoid or substantially lessen Proposed Project land use impacts.

8.7.4.2 General Plan Consistency

Compared to existing conditions, this alternative would have significant general plan consistency impacts at the El Toro site and at JWA.

Alternative G involves significant changes to JWA that will result in new runways and expanded noise contours, among other changes. These modifications necessitate amendments to the AELUP and the Noise, Land Use, Safety, and Public Services and Facilities Elements of the County General Plan. The change in airport boundaries will require changes to the Land Use, Noise, and related general plan elements of adjacent jurisdictions, including the Cities of Costa Mesa, Newport Beach, Irvine, Santa Ana, and Tustin.

With respect to the El Toro site, Alternative G is inconsistent with the Measure A provisions of the County General Plan and would require more extensive amendments to adopted plans than the Proposed Project. Therefore, the impacts of Alternative G related to general plan consistency are greater than the impacts projected to occur under the Proposed Project. Adoption of the ETRPA Nonaviation Alternative for the El Toro site also would be inconsistent with the County General Plan. Therefore, this alternative would not avoid or substantially lessen Proposed Project general plan consistency impacts.

8.7.4.3 Transportation and Circulation

Compared to existing conditions, this alternative would have significant adverse transportation and circulation impacts at JWA. This alternative would result in adoption of a nonaviation plan for the El Toro site likely similar to the ETRPA Nonaviation Alternative (Section 4.3), which would have significant unavoidable adverse impacts. Therefore, this Alternative would not avoid or substantially lessen project impacts.

The AM and PM peak hour and ADT traffic generated by JWA with build out of Alternative G is summarized in Table 8.7-1. Refer to Section 12.0 in the 1999 Traffic Analysis Technical Report for detailed information on the methodology applied to produce trip generation estimates for Alternative G.

**Table 8.7-1
Trip Generation Summary - Alternative G**

Project Component	AM Peak Hour			PM Peak Hour			ADT	Existing ADT
	In	Out	Total	In	Out	Total		
JWA	3,533	2,575	6,108	3,579	3,422	7,001	116,424	47,450

Table 8.7-2 compares, in summary, the Alternative G highway impacts to the existing conditions and existing conditions plus Proposed Project. There is minimal comparison between the existing plus project versus the Alternative G impacts due to the large differences between the scope of the project (two airports) and the alternative (one airport). In addition, Alternative G would require the removal of a large portion of the existing development surrounding JWA, along with the removal of existing trip generators.

In addition, a comparison of the impacts of Alternative G to the impacts of the Proposed Project during the phasing years may also be made. As discussed in detail in Section 4.3.6.6 of this ~~Draft EIR No. 573, as supplemented,~~ under the Proposed Project phasing years, four intersection locations, two arterial roadway segments, one continuous freeway mainline segment and one freeway ramp would be significantly impacted under Phase 1 conditions (2005), five intersection locations, two arterial roadway segments, one continuous freeway mainline segment and one freeway ramp would be significantly impacted under Phase 2 conditions (2010), and nine intersection locations, two arterial roadway segments, one continuous freeway mainline segment and two freeway ramps would be significantly impacted under Phase 3 conditions (2015). At Phase 4 build out, the Proposed Project would result in significant impacts not previously identified to four freeway/tollway mainline segments and four freeway/tollway ramps. See Draft Supplemental Analysis, Section 4.3.6.5. In each case, however, the identified impacts will be mitigated to a level below significant during the applicable phasing year (see Section 4.3.7.2, Table 4.3-20).

**Table 8.7-2
Summary Comparison of Traffic Impacts for Alternative G to
Existing Conditions and Existing Conditions Plus Project**

Existing Conditions Deficient Highway Facilities	Existing Conditions Plus Proposed Project Impacts	Alternative G With Existing Plus Committed Facilities
Location	Location	Location
INTERSECTIONS	IMPACTED INTERSECTION	IMPACTED INTERSECTIONS
Newport (NB) & Del Mar	Bake & Portola	Red Hill & Main
El Toro & SR-73 NB Ramps	Sand Canyon & Trabuco	MacArthur & Jamboree
Campus & N. Bristol	Bake & I-5/I-405 SB Ramps	MacArthur & Von Karman
Jamboree (SB) & Walnut	Bake & Rockfield	
Jamboree & I-405 NB Ramps	Jeffrey & Alton	IMPACTED FREEWAY RAMPS
Jeffrey & I-405 NB Ramps	Jeffrey & I-405 NB Ramps	I-405 at Jamboree (SB Off-Ramp)
Red Hill & MacArthur	Jeffrey & I-405 SB Ramps	I-405 at MacArthur (NB On-Ramp)
Irvine Center & Lake Forest	Jeffrey & Walnut/I-5 SB	I-405 at MacArthur (NB Off-Ramp)
Bake & Jeronimo	Sand Canyon & I-5 NB Ramps	I-405 at Sand Canyon (NB Direct On-Ramp)
El Toro & Avd Carlota	Sand Canyon & I-5 SB Ramps	
La Paz & Cabot/I-5 SB	Irvine Center & Lake Forest	IMPACTED FREEWAY SEGMENTS
Los Alisos & Muirlands	Bake & Irvine/Trabuco	SR-55 (I-5 to south of SR-73)
Alicia & Jeronimo	Bake & Toledo	
Alicia & Muirlands	Los Alisos & Muirlands	
La Paz & Muirlands/I-5 NB	Alicia & Jeronimo	
Red Hill & Edinger	Newport & Old Irvine	
Red Hill & Sycamore		
Red Hill & Walnut	IMPACTED ARTERIAL ROADS	
	Laguna Canyon (I-405 to SJHTC)	
ARTERIAL ROADWAYS	Laguna Canyon (south of El Toro)	
Portola (Sand Canyon to Foothill Toll Road)	Culver (Bryan to Trabuco)	
Laguna Canyon (I-405 to SR-73)		
Laguna Canyon (south of El Toro)	IMPACTED FREEWAY RAMPS	
Culver (Bryan to Trabuco)	I-5 at Culver (SB Off-Ramp)	
Michelson (Carlson to Harvard)	I-5 at Sand Canyon (NB On-Ramp)	
	I-5 at Sand Canyon (SB Off-Ramp)	
FREEWAY RAMPS	I-405 at Sand Canyon (NB Direct On-Ramp)	
I-5 at Culver (SB Off-Ramp)		
I-405 at Jamboree (SB Off-Ramp)	IMPACTED FREEWAY SEGMENTS	
I-405 at MacArthur (SB On-Ramp)	I-5 (Jeffrey to north of SR-55)	
I-405 at MacArthur (NB On-Ramp)		
I-405 at MacArthur (NB Off-Ramp)		
SR-55 at Dyer (SB On-Ramp)		
SR-55 at Dyer (NB Off-Ramp)		
SR-55 at MacArthur (SB Direct On-Ramp)		
SR-55 at MacArthur (NB Direct On-Ramp)		
SR-55 at MacArthur (SB Off-Ramp)		

Existing Conditions Deficient Highway Facilities	Existing Conditions Plus Proposed Project Impacts	Alternative G With Existing Plus Committed Facilities
Location	Location	Location
FREWAY SEGMENTS		
I-5 (Culver to north of SR-55)		
I-5 (Alton to I-405)		
I-5 (El Toro to La Paz)		
I-405 (MacArthur to SR-133)		
SR-55 (I-5 to SR-73)		

Abbreviations: NB-northbound EB-eastbound
 SB-southbound WB-westbound

The acquisition of a substantial amount of developed property and roadway infrastructure around JWA (i.e., outside the existing JWA property boundary) in the Cities of Costa Mesa and Newport Beach would be required to accommodate the runway extension and airport facility requirements for expanding JWA under Alternative G. The elimination of existing and planned development in the Costa Mesa and Newport Beach areas that would need to be acquired would result in a reduction of approximately 75,000 average daily trips, 6,200 AM peak hour trips and 6,900 PM peak hour trips in the immediate vicinity of JWA under year 2020 conditions. The JWA access concept anticipated in the analysis of Alternative G takes into consideration the effects of the existing roadway infrastructure that would be acquired, as well as the impact that the runway extension required under Alternative G would have on the Bristol Street/SR73 corridor immediately south of JWA. The JWA site access/roadway reconfiguration plan for Alternative G is described as follows for three general areas surrounding JWA.

Northeast (I-405 Freeway/MacArthur Boulevard)

Under Alternative G, the JWA airport terminal area would be expanded along the west side of MacArthur Boulevard to a point south of the existing MacArthur Boulevard/Von Karman Avenue intersection. Such an expansion of the air terminal and other associated airport facilities would eliminate the existing City of Newport Beach land uses and roadway system in the area bounded by MacArthur Boulevard, Campus Drive, North Bristol Street, and Jamboree Road. Master Plan of Arterial Highway (MPAH) facilities that would be eliminated in this area include Campus Drive and Birch Street between MacArthur Boulevard and North Bristol Street. The existing direct connector ramps between SR-55 and the terminal would be retained as would the terminal access provided from MacArthur Boulevard at the Michelson Drive and I-405 southbound ramp intersections. In addition, terminal entryways would be provided from MacArthur Boulevard at the Campus Drive and Von Karman Avenue intersections.

South (Bristol Street/SR-73)

In addition to being affected by the JWA terminal expansion mentioned previously, the Bristol Street/SR-73 corridor south of JWA would be impacted by Runway Object Free Area (ROFA) requirements associated with the extended JWA runways needed under Alternative G. The ROFA area would extend across SR-73 to a point south of existing South Bristol Street. It is assumed that SR-73 would tunnel under the ROFA area in its existing alignment and that North Bristol Street and South Bristol Street would be reconstructed south of the ROFA as a standard two-way primary arterial road from Red Hill Avenue to Birch Street and that Irvine Avenue would intersect the realigned Bristol Street from the south but would not extend north of Bristol Street. North Bristol Street and South Bristol Street east of Birch Street are assumed to remain in place as they are currently constructed. The elimination of Campus Drive and the realignment of Bristol Street would also result in the elimination of the existing SR-73 on- and off-ramps northwest of Campus Drive. It is anticipated that a new northbound SR-73 on-ramp would be constructed from North Bristol Street south of

Birch Street but that a new southbound SR-73 off-ramp would not be constructed since an off-ramp to South Bristol Street currently exists south of Birch Street.

West (Red Hill Avenue/SR-55)

In Alternative G, the City of Costa Mesa area bounded by the current JWA property boundary and I-405, SR-55 and SR-73 would be acquired and utilized for air cargo operations, various airport support facilities and public parking areas. It is anticipated that Red Hill Avenue would be retained, although realigned, as a four-lane arterial through this area, as would the connections of Paularino Avenue and Baker Street between Red Hill Avenue and the existing SR-55 collector/distributor roadway system. Entryways to the public parking and air cargo areas would be provided from Red Hill Avenue at the Paularino Avenue and Baker Street intersections.

Approval of this alternative would lead to adoption of a nonaviation plan for the El Toro site such as the ETRPA Nonaviation Plan Alternative analyzed in Section 8.3. The traffic impact analysis for the ETRPA Nonaviation Plan Alternative concludes that traffic impacts cannot be mitigated to below a level of significance. Therefore, a combination of Alternative G and a nonaviation plan for the El Toro site would result in a total traffic impact that could not be mitigated to acceptable levels.

8.7.4.4 Noise

Compared to existing conditions, this alternative would have significant adverse noise impacts at JWA because of the increased use of this airport. Under Alternative G, a large increase in the land area affected by the 60 and 65 CNEL noise contours would occur in comparison both to the 1998 and the 1985 Master Plan airport noise contours. The total number of daily jet carrier operations (arrivals and departures) would be more than 900 per day under this alternative (see Table 8.1-1). Under this alternative, the forecast number of commercial aircraft operations could not be accommodated unless the existing nighttime noise restrictions at JWA were removed. As discussed earlier, the CNEL calculation factors in the number of daily operations and assigns a “penalty weighting” to operations occurring during the nighttime hours (10 p.m. to 7 a.m.). However, the substantial increase in the number of operations, particularly during nighttime hours, is considered a significant impact of Alternative G independent of the CNEL computation. See Table 8.4-4, which shows the land use comparison with noise contours for 1998 and year 2020 alternatives for JWA. Also see Figure 8-9, which depicts noise contours for Alternative G.

Adoption of this alternative would probably lead to approval of a nonaviation land use plan such as the ETRPA Nonaviation Alternative analyzed herein for the El Toro site. For analysis of the noise impacts of a nonaviation land use plan, refer to Section 8.3. In conclusion, compared to the Proposed Project, this alternative would avoid aircraft noise impacts at the El Toro site and surrounding areas. However, this alternative would generate

substantially greater impacts than the Proposed Project in the vicinity of JWA, including sleep disturbance.

8.7.4.5 Air Quality

Compared to existing physical conditions (1998), Alternatives would have significant construction, regional and local air quality impacts. This alternative would not avoid or substantially lessen the Proposed Project's impacts because: a) local impacts at JWA would be increased, and b) this alternative would lead to adoption of a nonaviation plan for the El Toro site, which could have local CO hot spot impacts not found under the Proposed Project and regional impacts that are greater than the Proposed Project in light of the increase in VMT caused by demand being met at other regional airports outside Orange County. See Section 4.2 for an analysis of air quality impacts of a potential nonaviation plan for the El Toro site.

Short-Term (Construction) Impacts

Under this alternative, new runway facilities, terminal facilities, parking, cargo facilities, and support facilities at JWA would be necessary. Construction emissions would be greater than those of the Proposed Project at JWA. Under this alternative, there would be no aviation reuse at MCAS El Toro. Therefore, construction emissions would likely be similar at this site to those associated with the Nonaviation Alternative. When the construction impacts for the Nonaviation Alternative are added to construction emissions at JWA, the total construction emissions could exceed the Proposed Project and would be significant and unavoidable.

Operational Air Quality Impacts

Emissions Inventors

Under this project alternative, JWA will serve up to 25 MAP at build out. Total annual passengers and total annual aircraft LTO operations are less than those of the Proposed Project. Direct air pollutant emissions associated with airport operations, including aircraft, GSE, energy consumption, and vehicular trips, are shown below in Table 8.7.3 for this alternative.

**Table 8.7-3
2020 Alternative G – Project Direct Air Pollutant Emissions (pounds/day)**

	CO	NO_x	ROC¹	SO_x	PM₁₀
Aircraft	4,021.51	10,622.78	368.32	672.44	125.82
OCX	--	--	--	--	--
JWA	4,021.51	10,622.78	368.32	672.44	125.82
GSE/APU	17,588.19	1,203.18	462.52	27.61	52.78
OCX	--	--	--	--	--
JWA	17,588.19	1,203.18	462.52	27.61	52.78
Fuel Storage/Dispensing	--	--	27.15	--	--
OCX	--	--	--	--	--
JWA	--	--	27.15	--	--
Airport Roadways	344.51	68.41	15.64	4.07	4.48
OCX	--	--	--	--	--
JWA	344.51	68.41	15.64	4.07	4.48
Airport Parking	249.31	20.21	25.27	8.10	0.91
OCX	--	--	--	--	--
JWA	249.31	20.21	25.27	8.10	0.91
Energy Consumption	94.20	542.20	5.00	55.60	18.50
OCX	--	--	--	--	--
JWA	94.20	542.20	5.00	55.60	18.50
Vehicular Traffic	10,288	4,161	809	268	2,129
OCX	--	--	--	--	--
JWA	10,288	4,161	809	268	2,129
Total	32,586	16,608	1,703	1,036	2,331

Source: CH2M Hill and LSA Associates, Inc., 2001

¹ ROC emissions were obtained by multiplying HC emissions reported by EDMS by a factor of 1.14.

² SO_x emissions are not reported by the URBEMIS7G model.

Regional air pollutant emissions, including airport operations at other airports in the region and VMT required for air travel passengers to get to these airports, are shown in Table 4.7-2 for this alternative. Regional vehicle miles traveled for this alternative would be higher than existing conditions (1998) and the Proposed Project (Phase 4) because of the regional diversion issue. Therefore, this alternative would result in significant regional emissions that are greater than under the Proposed Project. These regional emissions, however, would be less than under the No Project Alternative. See Table 8.7-4.

**Table 8.7-4
Regionwide Emissions Inventory Alternative G Phase 4
(Pounds/Day Unless Noted)**

		CO	NO_X	ROC	SO_X	PM₁₀
Aircraft	El Toro	--	--	--	--	--
	JWA	4,021.51	10,622.78	368.32	672.44	125.82
	Other Airports	71,705.90	73,399.17	9,966.37	5,590.88	809.05
	<u>Total Regional</u>	<u>75,727.41</u>	<u>84,021.95</u>	<u>10,334.69</u>	<u>6,263.32</u>	<u>934.87</u>
GSE	El Toro	--	--	--	--	--
	JWA	17,588.19	1,203.18	462.52	27.61	52.78
	Other Airports	93,222.50	9,361.15	2,759.22	606.34	343.25
	<u>Total Regional</u>	<u>110,810.69</u>	<u>10,564.33</u>	<u>3,221.74</u>	<u>633.95</u>	<u>396.03</u>
Energy	El Toro	--	--	--	--	--
	JWA	94.20	542.20	5.00	55.60	18.50
	Others	579.00	3,331.00	31.00	341.00	114.00
	<u>Total Regional</u>	<u>673.20</u>	<u>3,873.20</u>	<u>36.00</u>	<u>396.60</u>	<u>132.50</u>
Fuel	El Toro	--	--	--	--	--
	JWA	--	--	27.15	--	--
	Other Airports	--	--	488.50	--	--
	<u>Total Regional</u>	--	--	<u>515.65</u>	--	--
Airport Roadways	El Toro	--	--	--	--	--
	JWA	344.51	68.41	15.64	4.07	4.48
	Other Airports	3,214.75	652.36	147.92	39.26	53.34
	<u>Total Regional</u>	<u>3,559.26</u>	<u>720.77</u>	<u>163.56</u>	<u>43.33</u>	<u>57.82</u>
Airport Parking	El Toro	--	--	--	--	--
	JWA	249.31	20.21	25.27	8.10	0.91
	Other Airports	3,408.00	293.44	47.04	90.52	35.72
	<u>Total Regional</u>	<u>3,657.31</u>	<u>313.65</u>	<u>72.31</u>	<u>98.62</u>	<u>36.63</u>
Roads	El Toro	--	--	--	--	--
	JWA	10,288.00	4,161.00	809.00	268.00	2,129.00
	Others	<u>2,763,687.00</u>	<u>492,434.00</u>	<u>71,041.00</u>	<u>48,776.00</u>	<u>7,691.00</u>
	<u>Airports¹</u>	<u>2,745,343.00</u>	<u>489,026.00</u>	<u>68,947.00</u>	<u>49,025.00</u>	<u>7,761.00</u>
	<u>Total Regional</u>	<u>2,773,975.00</u>	<u>496,595.00</u>	<u>71,850.00</u>	<u>49,024.00</u>	<u>9,820.00</u>
		<u>2,755,631.00</u>	<u>493,187.00</u>	<u>69,756.00</u>	<u>49,293.00</u>	<u>9,890.00</u>
TOTAL (pounds/day)		<u>2,968,402.87</u>	<u>596,088.90</u>	<u>86,193.95</u>	<u>56,459.82</u>	<u>11,377.85</u>
		<u>290,058.87</u>	<u>592,680.00</u>	<u>84,099.95</u>	<u>56,728.82</u>	<u>11,447.85</u>
Change from 2020 No Project (pounds/day)		<u>(10,959.73)</u> <u>(20,957.73)</u>	<u>(3,504.46)</u> <u>(5,318.60)</u>	<u>(1,384.33)</u> <u>(2,529.70)</u>	<u>(430.44)</u> <u>(273.44)</u>	<u>(41.55)</u> <u>19.88</u>
SCAQMD Threshold for Operation (pounds/day)		550	55	55	150	150

Source: LSA Associates, Inc., 2001.

¹ Typographical correction.

The CAL3QHC model was used to assess the CO concentrations at intersections in the vicinity of the project sites. Tables 8.7-5 and 8.7-6 show that the 1-hour and 8-hour CO concentrations would be below the State and federal CO standards. Similar to the Proposed Project, no CO hot spots at JWA would occur from project related vehicular traffic trips under this alternative. Local CO hot spots, however would likely occur at the MCAS El Toro site similar to those under the Nonaviation Alternative.

Toxic Air Contaminant Impacts

This alternative would avoid toxic air contaminant aviation impacts at the El Toro site but would increase impacts at the JWA site. Toxic air contaminant impacts would also result from development of the MCAS El Toro site as nonaviation.

8.7.4.6 Topography

Under Alternative G, the acreage of JWA would be expanded to meet a substantially increased volume of passenger traffic. In order to accomplish this, additional land surrounding the airport would be purchased. Expansion of the existing JWA runway would result in significant impacts to topography due to grading in order to extend the runway south by approximately 1,000 feet and north by approximately 1,300 feet. In addition, this alternative requires the addition of a runway to the JWA site, which would also result in significant impacts related to topography due to the grading necessary to create the addition. Based on these identified impacts, this alternative would result in a greater level of impacts related to topography than that identified under the Proposed Project. Therefore, this alternative would not avoid or substantially lessen impacts compared to the project.

8.7.4.7 Soils, Geology and Seismicity

This alternative would have no significant impacts at the El Toro site but would have significant adverse impacts at JWA.

Under Alternative G, the acreage of JWA would be expanded to meet the increased volume of passenger traffic. Expansion of the existing JWA runway would result in significant impacts related to soils, geology, and seismicity because of the necessity for runway extensions south by approximately 1,000 feet and north by approximately 1,300 feet. Another aspect of this alternative is the development of an additional parallel runway. The soils in the northern part of the JWA site are classified as part of the Omni soil association and are potentially highly expansive. The northern expansion area would be into a flood prone and high liquefaction area. Although it is anticipated that construction design would include mitigation measures, the impacts related to soils, geology, and seismicity would be greater under this alternative than those identified under the Proposed Project.

**Table 8.7-5
Phase 4 Alternative G – Predicted One Hour Ambient Carbon Monoxide Concentration for
Intersections with the Highest Volume and Worst Level of Service (LOS)**

INT#	INTERSECTING STREETS	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12
CITY OF ORANGE¹³													
345	Jamboree & Chapman	7.0	7.0	7.2	7.0	7.0	7.2	6.8	7.2	6.8	6.8	6.7	6.6
CITY OF SANTA ANA¹³													
154	MacArthur & Main	7.0	7.1	7.1	7.2	6.8	6.8	6.6	7.0	6.9	7.0	6.7	6.8
152	Main & Sunflower	7.0	7.1	6.7	7.1	6.6	7.0	6.5	6.5	6.7	6.8	7.2	7.0
90	Grand & Edinger	7.0	7.0	7.0	7.2	6.9	7.0	6.7	7.1	6.6	6.9	6.8	6.8
CITY OF TUSTIN¹³													
93	Newport & Edinger	7.2	7.1	6.9	7.2	6.7	6.7	6.6	6.7	6.7	7.0	6.6	6.9
95	Tustin Ranch & Edinger	7.2	7.0	6.9	7.1	6.7	6.9	6.6	6.7	6.9	6.9	6.6	7.0
115	Von Karman & Barranca	7.0	7.1	7.1	6.9	6.6	7.1	6.7	6.9	6.6	6.5	6.8	7.0
CITY OF IRVINE¹⁴													
116	Jamboree & Barranca	5.9	6.0	5.6	5.6	5.3	5.5	5.3	5.5	5.5	5.4	5.5	5.9
156	Jamboree & Main	5.6	5.5	5.7	5.4	5.2	5.4	5.3	5.4	5.3	5.3	5.4	5.5
134	Jamboree & Alton	5.6	5.6	5.7	5.7	5.2	5.5	5.2	5.3	5.4	5.4	5.4	5.7
98	Culver & Irvine Center	5.6	5.6	5.7	5.7	5.3	5.4	5.4	5.5	5.3	5.5	5.4	5.5
175	Jamboree & Michelson	5.6	5.4	5.4	5.6	5.1	5.3	5.3	5.3	5.3	5.4	5.4	5.4
151	Red Hill & MacArthur	5.7	5.6	5.5	5.6	5.1	5.4	5.3	5.3	5.3	5.3	5.3	5.7
100	Jeffrey & Irvine Center	5.6	5.5	5.5	5.6	5.3	5.5	5.2	5.2	5.4	5.7	5.1	5.3
153	Red Hill & Main	5.4	5.5	5.5	5.5	5.2	5.4	5.1	5.2	5.2	5.2	5.1	5.3
195	MacArthur & Jamboree	5.5	5.5	5.5	5.3	5.1	5.2	5.1	5.3	5.4	5.3	5.2	5.4
174	Von Karman & Michelson	5.4	5.4	5.3	5.2	5.0	5.1	5.2	5.1	5.1	5.2	4.9	5.3
177	Culver & Michelson	5.4	5.5	5.3	5.2	5.0	5.2	5.1	5.0	5.1	5.1	5.3	5.4
CITY OF LAGUNA BEACH¹⁴													
299	Moulton & El Toro	5.4	5.4	5.5	5.5	5.1	5.3	5.4	5.4	5.0	5.3	5.1	5.1
CITY OF LAGUNA HILLS¹⁴													
280	El Toro & Avd. Carlota	5.4	5.4	5.4	5.3	5.0	5.3	5.0	5.1	5.2	5.2	5.1	5.3

Note: * - Concentrations are in parts per million (ppm)

1 - REC1 SW CORNER

2 - REC2 SE CORNER

3 - REC3 NE CORNER

4 - REC4 NW CORNER

5 - REC5 S. DEPARTURE - MID BLOCK

6 - REC6 N. APPROACH - MID BLOCK

7 - REC7 E. DEPARTURE - MID BLOCK

8 - REC8 W. APPROACH - MID BLOCK

9 - REC9 N. DEPARTURE - MID BLOCK

10 - REC10 S. APPROACH - MID BLOCK

11 - REC11 W. DEPARTURE - MID BLOCK

12 - REC12 E. APPROACH - MID BLOCK

13 - The ambient one-hour CO concentration, 6.1 ppm, obtained by multiplying a rollback factor to the second highest one-hour CO concentration at the nearest air monitoring station, Central Orange County Air Monitoring Station between the years 1996 to 2000, is added to the calculated one hour levels.

14 - The ambient one-hour CO concentration, 4.6 ppm, obtained by multiplying a rollback factor to the second highest one-hour CO concentration at the nearest air monitoring station, Saddleback Valley Air Monitoring Station between the years 1996 to 2000, is added to the calculated one hour levels.

**Table 8.7-6
Phase 4 Alternative G – Predicted Eight Hour Ambient Carbon Monoxide Concentration for
Intersections with the Highest Volume and Worst Level of Service (LOS)**

INT#	INTERSECTING STREETS	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12
CITY OF ORANGE¹³													
345	Jamboree & Chapman	5.2	5.2	5.4	5.2	5.2	5.4	5.1	5.4	5.1	5.1	5.0	5.0
CITY OF SANTA ANA¹³													
154	MacArthur & Main	5.2	5.3	5.3	5.4	5.1	5.1	5.0	5.2	5.2	5.2	5.0	5.1
152	Main & Sunflower	5.2	5.3	5.0	5.3	5.0	5.2	4.9	4.9	5.0	5.1	5.4	5.2
90	Grand & Edinger	5.2	5.2	5.2	5.4	5.2	5.2	5.0	5.3	5.0	5.2	5.1	5.1
CITY OF TUSTIN¹⁴													
93	Newport & Edinger	5.4	5.3	5.2	5.4	5.0	5.0	5.0	5.0	5.0	5.2	5.0	5.2
95	Tustin Ranch & Edinger	5.4	5.2	5.2	5.3	5.0	5.2	5.0	5.0	5.2	5.2	5.0	5.2
115	Von Karman & Barranca	5.2	5.3	5.3	5.2	5.0	5.3	5.0	5.2	5.0	4.9	5.1	5.2
CITY OF IRVINE¹⁴													
116	Jamboree & Barranca	3.8	3.9	3.6	3.6	3.4	3.5	3.4	3.3	3.5	3.5	3.5	3.8
156	Jamboree & Main	3.6	3.5	3.7	3.5	3.3	3.5	3.4	3.5	3.4	3.4	3.5	3.5
134	Jamboree & Alton	3.6	3.6	3.7	3.7	3.3	3.5	3.3	3.4	3.5	3.5	3.5	3.7
98	Culver & Irvine Center	3.6	3.6	3.7	3.7	3.4	3.5	3.5	3.5	3.4	3.5	3.5	3.5
175	Jamboree & Michelson	3.6	3.5	3.5	3.6	3.3	3.4	3.4	3.4	3.4	3.5	3.5	3.5
151	Red Hill & MacArthur	3.7	3.6	3.5	3.6	3.3	3.5	3.4	3.4	3.4	3.4	3.4	3.7
100	Jeffrey & Irvine Center	3.6	3.5	3.5	3.6	3.4	3.5	3.3	3.3	3.5	3.7	3.3	3.4
153	Red Hill & Main	3.5	3.5	3.5	3.5	3.3	3.5	3.3	3.3	3.3	3.3	3.3	3.4
195	MacArthur & Jamboree	3.5	3.5	3.5	3.4	3.3	3.3	3.3	3.4	3.5	3.4	3.3	3.5
174	Von Karman & Michelson	3.5	3.5	3.4	3.3	3.2	3.3	3.3	3.3	3.3	3.3	3.1	3.4
177	Culver & Michelson	3.5	3.5	3.4	3.3	3.2	3.3	3.3	3.2	3.3	3.3	3.4	3.5
CITY OF LAGUNA BEACH¹⁴													
299	Moulton & El Toro	3.5	3.5	3.5	3.5	3.3	3.4	3.5	3.5	3.2	3.4	3.3	3.3
CITY OF LAGUNA HILLS¹⁴													
280	El Toro & Avd. Carlota	3.5	3.5	3.5	3.4	3.2	3.4	3.2	3.3	3.3	3.3	3.3	3.4

Note: * - Concentrations are in parts per million (ppm)

- 1 - REC1 SW CORNER
- 2 - REC2 SE CORNER
- 3 - REC3 NE CORNER
- 4 - REC4 NW CORNER
- 5 - REC5 S. DEPARTURE - MID BLOCK
- 6 - REC6 N. APPROACH - MID BLOCK
- 7 - REC7 E. DEPARTURE - MID BLOCK
- 8 - REC8 W. APPROACH - MID BLOCK
- 9 - REC9 N. DEPARTURE - MID BLOCK
- 10 - REC10 S. APPROACH - MID BLOCK
- 11 - REC11 W. DEPARTURE - MID BLOCK
- 12 - REC12 E. APPROACH - MID BLOCK

13 - The ambient eight-hour CO concentration, 4.6 ppm, obtained by multiplying a rollback factor to the second highest eight-hour concentration at the nearest air monitoring station, Central Orange County Air Monitoring Station between the years of 1996 to 2000, is added to the product of the calculated one-hour levels multiplied by a persistent factor of 0.7.

14 - The ambient eight-hour CO concentration, 2.9 ppm, obtained by multiplying a rollback factor to the second highest eight-hour concentration at the nearest air monitoring station, Saddleback Valley Air Monitoring Station between the years of 1996 to 2000, is added to the product of the calculated one-hour levels multiplied by a persistent factor of 0.7.

With regard to the MCAS El Toro site, the impacts related to soils, geology, and seismicity would be similar to those identified in Section 8.3 for the ETRPA Nonaviation Alternative. This alternative would not, therefore, avoid or substantially lessen impacts compared to the project.

8.7.4.8 Hydrology and Water Quality

This alternative would have significant adverse impacts at JWA. The hydrology and water quality impacts of Alternative G at JWA would be greater than the level of impacts under the Proposed Project due to the increased aviation activities. These impacts could be mitigated using proper engineering design and construction practices, similar to those described under the Proposed Project. With regard to the El Toro site, the impacts related to hydrology and water quality would be similar to those identified in Section 8.3 for the ETRPA Nonaviation Alternative. This alternative, therefore, would not avoid or substantially lessen impacts compared to the project.

8.7.4.9 Biological Resources

This alternative would have significant adverse impacts at JWA. At JWA there are substantial new facility improvements required to accommodate the increase in aviation operations. Compared to the Proposed Project, the physical improvements for Alternative G would impact additional non-native, ornamental vegetation but would not likely impact native plant communities. The most substantive change in the environment would be associated with the increase in aircraft activity and commensurate increases in noise exposure and overflights in Newport Back Bay. These increases do represent a substantial adverse change from the Proposed Project as well as from existing conditions. CNEL values in the Upper Newport Bay would range from in excess of 65 dB CNEL to over 70 dB CNEL. Depending upon the receptor location, this represents a CNEL increase of 5 to 10 dB. Alternative G ranges between 3 and 9 dB CNEL greater than for existing conditions, and between 4 and 10 dB CNEL greater than the Proposed Project conditions.

Due to the increase in noise exposure, adverse impacts to nesting behavior as a result of the CNEL increase are anticipated. Local listed species that reside in the Upper Newport Bay include California gnatcatcher, California least tern, Belding's savannah sparrow, California brown pelican, and clapper rail. However, the SEL impacts are not anticipated to change because of the similarity of the aircraft fleet mix under Alternative G and the Proposed Project. Therefore, no increase in the startle response is anticipated. Regardless, the increase in overflights, coupled with the higher average noise exposure could result in additional adverse impacts to biological productivity in the Upper Newport Bay. Regarding the El Toro site, this alternative would result in impacts similar to the ETRPA Nonaviation Alternative. In summary, this alternative would not avoid or substantially lessen impacts compared to the project.

8.7.4.10 Public Services and Utilities

This alternative would have significant adverse impacts at JWA. Alternative G would expand JWA beyond its current property limits and would substantially increase the MAP served, which would generate the need for increased fire and emergency medical, police services, and transit service in the area. Mitigation measures prescribed in Section 4.10 (Public Services and Utilities) would be applied, which would reduce the impacts of increased service needs. With demand for additional public services at both MCAS El Toro and JWA areas, Alternative G would have greater impacts to public service providers and facilities than the Proposed Project.

As described in Section 4.10 (Public Services and Utilities), the Proposed Project is not anticipated to result in significant adverse impacts related to utilities at the El Toro site or at JWA. It is anticipated that the utilities needs at El Toro under Alternative G would be similar to the anticipated needs under the ETRPA Nonaviation Alternative. Therefore, this alternative would not avoid or substantially lessen impacts compared to the project.

8.7.4.11 Natural Resources and Energy

As noted in Section 4.11 (Natural Resources and Energy), the Proposed Project would not result in significant adverse impacts to natural resources and energy, with the exception of impacts to agricultural resources at MCAS El Toro, which could not be mitigated to below a level of significance. This alternative could reduce or avoid the project impacts on agricultural soils depending on the reuse plan selected for the El Toro site. However, a nonaviation plan such as the ETRPA Nonaviation Alternative (Section 8.3) would have greater impacts than the project on agricultural soils. There are no natural or agricultural resources at JWA.

Implementation of the Proposed Project also would result in a less than significant increase in regional energy consumption, associated primarily with construction and operation of a new international airport at the MCAS El Toro site, as compared to existing conditions. Alternative G also would realize lower energy consumption levels associated with airport operations. This energy savings would be offset, however, by increased highway miles traveled, as the shortfall in forecasted demand for air travel service forces air travelers to drive to other airports within the region than would be required with the Proposed Project. In summary, this alternative would not avoid or substantially lessen impacts compared to the project.

8.7.4.12 Aesthetics, Light and Glare

This alternative would have greater impacts at JWA compared to the Proposed Project. Because significant expansion of the JWA site would be required for Alternative G, substantial alteration of the existing visual setting would take place under this alternative, whereas the Proposed Project would not substantially modify the existing visual appearance

of JWA. Visual impacts of this alternative could be reduced to a level of insignificance with adequate mitigation; however, the impact of aircraft light and glare on nearby residential uses, mainly Santa Ana Heights, would be unavoidably significant.

Alternative G would require property acquisition of the developed area east of the airport between Campus Drive, MacArthur Boulevard, Bristol Street (SR-73), and Jamboree Road. In addition, property to the west of the airport beyond Red Hill Avenue would be needed for a new runway and aviation support uses. At the JWA site, Alternative G would have a significantly greater visual impact than that of the Proposed Project, which would not alter the existing visual effect on the surrounding land uses. Since the existing setting is one of intensive urban development, the expansion of facilities under Alternative G would not have a substantial adverse effect on a scenic vista, or damage scenic resources such as rock outcroppings, trees, historic buildings, or a scenic highway; such scenic resources are not present in the immediate JWA area. The effects of light and/or glare at the JWA site under this alternative would be more adverse than the existing setting and the Proposed Project. With the County Standard Condition of Approval LG 1 (Appendix L), the effects of the increased ground-level light and glare would be reduced to below the level of significance. However, the added nighttime aircraft light and glare impacts would be significant after mitigation. In summary, this alternative would not avoid or substantially lessen impacts compared to the project.

8.7.4.13 Cultural Resources

This alternative would have impacts at JWA similar to the Proposed Project. The records search referenced in Section 4.13, Cultural Resources, included the expansion area between MacArthur Boulevard, Campus Drive, and Bristol Street that would be required for development of Alternative G at JWA. The majority of the expansion area southeast of JWA has not been surveyed for historic or prehistoric archaeological resources because the area is intensely developed with office and commercial buildings. The surveys that have been conducted were at locations at the periphery of the expansion area. Similar to Proposed Project conditions, no prehistoric or historic archaeological sites or properties of historic significance were found in the few surveys at the periphery of the area.

In summary, this alternative would not avoid or substantially lessen impacts compared to the project.

8.7.4.14 Recreation

This alternative would have greater impacts at JWA than those under the Proposed Project. Alternative G would expand the physical area of JWA and interrupt trail use and/or encroach into the golf courses south of JWA. On-street bikeways would be impacted by enlargement of JWA and required realignment of area streets such as Redhill Avenue. The extent of encroachment or interruption of use would be determined with a more precise level of planning for Alternative G. In addition, noise impacts on recreational use of trails and parks

in the area would increase from existing conditions and the Proposed Project. Significant noise related recreational impacts would occur under Alternative G since the 65 dB CNEL contour would be expanded to areas beyond the existing 1998 65 dB CNEL contour.

In summary, this alternative would not avoid or substantially lessen impacts compared to the project.

8.7.4.15 Public Health and Safety

Compared to existing conditions, the overall potential for accidents under this alternative is less than the Proposed Project. This alternative would avoid aviation accident impacts at the El Toro site and lessen the aviation accident potential at JWA due to a reduction in GA operations.

Aviation Safety

Compared to the Proposed Project, there would be an increase of approximately 234,700 air carrier and air cargo operations and a decrease of approximately 313,700 general aviation operations at JWA under this alternative. Under this scenario, the potential air carrier and air cargo accident risks at JWA would increase by approximately 347.7% to reflect the number of increasing aviation activity and the potential accident risks for general aviation at JWA would decrease by 87.4% correspondingly. Since there is no aviation activity at OCX, under this alternative, there would be zero aviation risks. Compared to the Proposed Project, relative to on-airport and off-airport fatal accidents per million operations, there would be no significant adverse impacts related to aviation safety at the MCAS El Toro site or at JWA.

Compared to the existing conditions, there would be an increase of approximately 212,192 air carrier and air cargo operations and a decrease of approximately 282,324 general aviation operations at JWA. Under this scenario, the potential air carrier and air cargo accident risks at JWA would increase by approximately 235.7% to reflect the number of increasing operations and the potential general aviation accident risks would decrease by 86.2% correspondingly. Compared to the existing conditions, there would be no significant adverse impacts related to aviation safety at JWA.

8.7.4.16 Hazardous Materials and Hazardous Wastes

Under this alternative, expansion of runway facilities at JWA would have a moderate potential to result in excavation of contaminated soils. Although it is not presently known if subsurface contamination exists within runway expansion areas, there is a possibility that petroleum hydrocarbon contamination may be encountered from leaking underground storage tank sites in the vicinity. However, construction activities would be required by state and federal law to ensure that any hazardous waste contamination encountered during construction is reported and handled to the satisfaction of the appropriate local agencies. Therefore, with the application of existing laws governing hazardous waste remediation, the

impacts of Alternative G related to soil and groundwater contamination would be anticipated to be less than significant. The impacts of Alternative G related to hazardous materials and hazardous wastes at JWA, however, would be greater than under the Proposed Project.

Any use of hazardous materials and/or generation of hazardous waste under Alternative G would be regulated by applicable State law, federal law, and regulations pertaining to worker protection, hazardous materials storage and use, and hazardous waste generation and disposal. Implementation of these regulations would reduce potential impacts associated with the presence of these hazardous substances to below a level of significance. In summary, this alternative would not avoid or substantially lessen impacts compared to the project.

8.7.4.17 Socioeconomics

Under this alternative, approximately 700 acres of surrounding land would have to be acquired to accommodate the projected aviation activities. Much of this land is currently developed with commercial/industrial uses, which would have to be displaced and relocated. Therefore, under the threshold of significance related to displacement of a large number of persons, this alternative would have a significant adverse impact that is not anticipated under the Proposed Project. No existing housing units would be displaced under this alternative.

Under this alternative, an estimated 17,500 jobs would be provided at JWA in 2020, representing a net increase of 15,400 jobs over existing 1998 conditions. The total number of jobs generated under this alternative would be substantially lower than under the Proposed Project. However, the number of jobs at JWA under Alternative G substantially exceeds the jobs projected at JWA under the Proposed Project. Under this alternative, it is assumed that the MCAS El Toro site would develop with a range of nonaviation uses similar to those shown in the ETRPA Nonaviation Plan. This development would result in an estimated 50,700 jobs, 13,600 persons, and 5,900 housing units being located on the site in 2020. This level of activity is significantly higher than the level anticipated under the Proposed Project. In total, this alternative supports 68,200 jobs, 13,600 persons, and 5,900 housing units on the project site. This figure is significantly higher than the number of jobs, persons, and housing units expected under the Proposed Project.

As with the Proposed Project, economic activity occurring at the JWA and El Toro sites, as well as expenditures by visitors arriving by air through JWA, would stimulate additional off-site job growth. Given the higher number of on-site jobs and fewer air passengers served by this alternative, the number of off-site jobs under Alternative G would be similar to the Proposed Project.

Given the greater number of jobs generated under Alternative G, at 68,200 jobs versus 29,500 jobs under the Proposed Project, the magnitude of impacts related to induced growth or concentration of population and employment, and increasing demand for housing, including low and moderate income housing, would be greater than under the Proposed

Project. The additional demand for housing created by project related employment would be partially, but not completely, offset by the housing to be developed on the El Toro site under this alternative.

In summary, this alternative would not avoid or substantially lessen impacts compared to the project.

8.7.4.18 Risk of Upset

The ultimate build out and phased development of this alternative would entail no aviation reuse at the El Toro site and a market-driven increase in operations at JWA. An increase in operations under this alternative would entail an approximate three-fold increase in ultimate commercial passenger service levels at JWA over the existing cap. This growth in passenger service would also generate a substantial increase in demand for jet fuel at JWA, as well as associated diesel-fueled tank truck jet fuel transport operations since JWA (unlike OCX) is not served by pipelines. Additional requirements for fuel storage capacity on the JWA also could be required. Under this circumstance, the risk of upset potential at JWA would be higher than that under the Proposed Project.

As discussed in Section 4.18 (Risk of Upset), the Proposed Project would not result in significant adverse impacts to public health and safety resulting from project related risk of upset conditions. Therefore, this alternative would not avoid or substantially lessen impacts at JWA, but would avoid aviation impacts at the El Toro site.

8.7.5 Feasibility

This alternative is feasible from a physical standpoint in that the existing main runway can be extended to serve an expanded market role (limited international). However, significant acquisition of developed property adjacent to the airport is required in order to provide space for additional airfield development and required terminal facilities.

From an operational standpoint, the primary runway for JWA is capable of supporting a limited international market role. However, it is not feasible for the runway in this alternative to serve operations by all commercial aircraft types. The runway length would not be capable of supporting full international service. This alternative provides a limited amount of space for general aviation. As such, general aviation operations can be served on a very limited basis, and the more than 500 JWA based aircraft must be relocated to other general aviation airports in the region.

From a market perspective, this alternative provides for substantial growth in passenger and cargo service beyond today's levels. It does not however meet all of the project market objectives.

From a fiscal perspective, the order of magnitude cost for Alternative G is estimated at \$4.3 billion as described in ASMP Technical Report 6. These are identified as “order of magnitude” costs since they have been prepared without the benefit of a master plan (\$4.3 billion is 54 percent higher than the Proposed Project’s cost).

8.7.6 Conclusions

- This alternative would increase the adverse effects of noise compared to the Proposed Project, No Project, and all other alternatives. It is the only one of the alternatives evaluated with existing residences (446 homes) inside the highest impact 70 CNEL noise contour. It has 6,954 residences inside the 60 CNEL contour, 4,540 more than the Proposed Project.
- The feasibility of this alternative is questionable from a financial standpoint. The “order of magnitude” capital cost estimate is \$4.3 billion, 54 percent higher than the Proposed Project. Compared to the Proposed Project, the reserve potential is much less due to 27 percent fewer passengers and fewer revenue generating airport compatible uses.
- This alternative fails to meet a major objective of satisfying, a substantial portion of Orange County’s general aviation demand.
- The alternative does not fulfill the LRA’s objective of implementing a two commercial airport system.
- The alternative does not take advantage of existing land use restrictions within the Policy Implementation Line (PIL).
- The alternative does not meet as much of the Orange County commercial aviation demand as the Proposed Project alternative. The runway length would not be capable of supporting full international service. Therefore, the alternative does not meet all of the project market objectives.
- This alternative would result in significant local and regional air quality impacts and air quality impacts related to construction greater than the Proposed Project. Toxic air contaminant health risk impacts would also be significant under this alternative.

8.8 ALTERNATIVE J: JWA – STATUS QUO AVIATION ROLES; OCX FULL INTERNATIONAL WITH WIDELY-SPACED RUNWAYS

This section presents the potential impacts of Alternative J as measured against the existing setting, as well as a comparison of the alternative's impacts to those of the Proposed Project at build out. In those instances in which the comparison of the alternative to the Proposed Project is materially affected by the phasing of the project, i.e., in those instances in which the impacts of the Proposed Project during the phasing years are materially different from those impacts at year 2020 build out, a comparison of the alternative's impacts to those of the Proposed Project for the applicable phasing year is also provided.

This alternative was selected for analysis because it has the potential to avoid the impacts of easterly departures (and the potential for westerly departures) while still obtaining most of the objectives of the project.

8.8.1 Aviation Uses

The airport roles and expected aviation activity levels for Alternative J would be the same as for the Proposed Project. Under this alternative, however, MCAS El Toro would be developed with two parallel north-south runways, with a centerline separation of 3,000 feet. This would provide greater separation of the arrival and departure streams of aircraft to increase the aircraft arrival rate under instrument weather conditions. It would also create a large "infield" area between the runways for the development of terminal or other aviation related facilities. Figure 8-10 depicts Alternative J.

8.8.2 Nonaviation Revenue Support Uses

The nonaviation land uses proposed under Alternative J are the same as assumed for the Proposed Project.

8.8.3 Attainment of Project Objectives

This alternative meets the general project objectives for reuse of the base except special planning opportunities and minimize environmental impacts. Alternative J also meets the aviation related objectives, with the exception of existing land use restrictions. However, the greater separation of the runways will subject large areas of existing and planned noise sensitive uses to aviation noise impacts exceeding 65 CNEL. For this reason, this Draft EIR proposes to reject this alternative.

8.8.4 Environmental Impacts of Alternative J

The airport role and MAP levels would be the same as with the Proposed Project, therefore most of the impacts would be identical or similar to those addressed for the Proposed Project, except that aviation noise impacts would be much more adverse than with the Proposed Project. Because this alternative would have the identical or similar impacts compared to the Proposed Project, the following analysis focuses on the topical areas where there are measurable differences between the alternative and the Proposed Project.

8.8.4.1 Noise

Compared to existing conditions, this alternative would have the same impacts at JWA as the project; however, the impacts surrounding the El Toro site would be significantly worse than the Proposed Project. This alternative would not, therefore, avoid or substantially lessen the project impacts.

The Alternative J 65 CNEL contour line would include 13.97 square miles of land for OCX and 1.49 square miles of land for JWA. The 65 CNEL for the existing military aircraft operations at MCAS El Toro include 8.0 square miles of land and, for JWA, the existing conditions include 1.49 square miles of land. Therefore, Alternative J would increase the area affected by the 65 CNEL surrounding the El Toro site by 5.97 miles compared to an increase of 5.7 square miles for the Proposed Project. At JWA, Alternative J would impact the same area affected by the 65 CNEL.

The Proposed Project would increase noise sensitive land uses by three churches and one private school compared to existing conditions at the El Toro site (see Table 8.2-3). This alternative would result in 525 residences in the vicinity of El Toro located in areas subject to aviation noise levels of 65 to 70 CNEL compared to zero residences in the vicinity of El Toro impacted by the 65 to 70 CNEL for the Proposed Project and existing conditions (see Table 8.2-4). This represents a significant adverse impact that could not be reduced through mitigation measures. This is due to the proposed addition of the westerly runway complex, which would result in aircraft approaches over existing homes south of the El Toro site. Departures from this new westerly runway complex would fly close to existing homes in the Northwood Pointe area of Irvine and over planned residences in north and northeast Irvine. Figure 8-11 illustrates the year 2020 dB CNEL contours for Alternative J.

As discussed earlier, the CNEL calculation factors in the number of daily operations and assigns a “penalty weighting” to operations occurring during the nighttime hours (10 p.m. to 7 a.m.). However, the substantial increase in the number of operations, particularly during nighttime hours, may be considered a significant impact of Alternative J independent of the CNEL computation for the same reasons identified for the Proposed Project and other relevant alternatives.

8.8.4.2 Biological Resources

Compared to existing conditions, this alternative would have no significant impact at JWA, but would have significant adverse impacts at the El Toro site similar to the Proposed Project except as noted below. The mitigation measures proposed for the Proposed Project would reduce any impacts of this alternative to a level of insignificance.

The elimination of the east-west runway would reduce aircraft noise exposure in the federal Habitat Reserve. For Alternative J, the 60, 65 and 70 CNEL contours do not overlay any of the Habitat Reserve. This would be a beneficial impact of Alternative J as the noise exposure from aircraft overflights is substantially reduced. However, the habitat in the preserve has included relatively high densities of gnatcatcher occupation. Even during the military aircraft utilization of the east-west runway, and the corresponding noise exposure in the preserve, there were relatively high densities of California gnatcatcher. Therefore, the reduction in noise exposure within the preserve boundary would not result in a corresponding increase in gnatcatcher density. The quality and extent of the habitat in the preserve contributes to the density of occupation, rather than indirect influences resulting from noise exposure.

The north-south runway, being separated by 3,000 feet, results in an increase in the width of the CNEL contours at Siphon Ridge to the north. The noise is essentially spread out over a wider geographic area, although the closure point of the CNEL contours (e.g. 65, 70) is not substantially changed from the Proposed Project. This condition is consistent for both the 70 CNEL contour as well as for the 65 CNEL contour. The closure point for the 65 CNEL contour extends further to the north well beyond the south facing slopes of Loma Ridge, into the Santiago Hills. The most significant biological resource at Siphon Ridge is coastal sage scrub habitat and the California gnatcatcher. However, since the proposed federal habitat area has one of the densest occupations by California gnatcatchers in Orange County in an area subject to decades of very high military aircraft noise, there appears to be no correlation between aircraft noise and adverse habitat impacts. Therefore, Alternative J would not have a significant adverse impact on the Siphon Ridge coastal sage scrub habitat area.

8.8.4.3 Public Health and Safety

Compared to the Proposed Project, the overall aviation activity levels and aircraft accident risks at JWA and the MCAS El Toro site would remain the same because the level of aircraft operations would be the same. The change in runway configuration would not significantly affect aviation accident risk.

8.8.5 Feasibility

This alternative requires significant land acquisition for runway construction at OCX and requires major modifications to SR133, the Eastern Transportation Corridor (including the construction of a bridge to allow a new parallel runway and associated taxiway to pass over SR133), and potentially modifications to Irvine Boulevard.

From an operational standpoint, the runway configuration at OCX does not allow departures to the east. This increases airspace interactions with JWA and other traffic to the north, and does not take full advantage of the existing Policy Implementation Line (PIL). This alternative would create new noise impact areas north and south of OCX outside the PIL.

From a market perspective, this alternative provides for substantial growth in passenger and cargo service beyond today's levels, and also accommodates Orange County's general aviation demand.

8.8.6 Conclusions

Conclusions regarding Alternative J are as follows:

- This alternative increases airspace intersections by directing more air traffic towards the JWA primary approach corridor, towards a VFR flyway between Corona and Los Alamitos (V-8-21), and towards airspace used by Ontario Airport departing aircraft. It fails to take advantage of less active airspace to the east of El Toro.
- This alternative requires significant land acquisition and requires significant major Modifications to SR 133, the Eastern Transportation Corridor, and potential modifications to Irvine Boulevard.
- This alternative does not take full advantage of existing land use restrictions inside the Policy Implementation Line (PIL) and creates new noise impacts areas north and south of OCX. It causes 5425 residences to be within the OCX 65 CNEL contour, and 3,411 residences to be within the OCX 60 CNEL contour.

8.9 ALTERNATIVE OCX AIRPORT RUNWAY LAYOUT (WILDLANDS RANCH ALTERNATIVE)

This section presents the potential impacts of the Wildlands Ranch Alternative as measured against the existing setting, as well as a comparison of the alternative's impacts to those of the Proposed Project at build out. In those instances in which the comparison of the alternative to the Proposed Project is materially affected by the phasing of the project, i.e., in those instances in which the impacts of the Proposed Project during the phasing years are materially different from those impacts at year 2020 build out, a comparison of the alternative's impacts to those of the Proposed Project for the applicable phasing year is also provided.

In April 1998, a proposed El Toro runway layout consisting of a "V" configuration was submitted by Mr. Charles E. Griffin to the Orange County Register. Throughout 1998, regular updates of the concept were distributed by Mr. Griffin, including submittals to the Orange County Board of Supervisors. On November 24, 1998, and December 1, 1998, Mr. Griffin submitted responses to the Notice of Preparation of Draft Environmental Impact Report No. 573. These included conceptual sketches of an alternative airport runway layout. On April 7, 1999, Mr. Griffin submitted his then latest iteration of the proposed alternative to the County of Orange. A review of this submittal was conducted as part of this EIR. Subsequently, a later concept was submitted to the County on October 5, 1999. This submittal contained significant modifications to the April 7 concept. This concept was also reviewed. The description of the alternative presented herein is based on the information contained in both the April 7 and October 5, 1999, submittals. Each submittal is addressed separately in this EIR subsection.

8.9.1 Aviation Uses

The following is a chronology of materials submitted by Mr. Griffin that have been received by the County of Orange El Toro Master Development Program and their aviation planning consultants.

- (i) April 26, 1998 – Submitted to the Orange County Register. The submittal offers a concept of reorienting runways so flight paths are over non-residential areas. The concept is based on a 3 degree glide slope to Runway 16.
- (ii) May 20, 1998 – Submitted to the Orange County Register. The concept is similar to the April 26 submittal, except the concept is based on a glide slope greater than 3 degrees.
- (iii) July 21, 1998 – Submitted to the Orange County Board of Supervisors. The submittal provides further documentation of the proposed concept, including additional documentation of TERPS issues. The concept represented in this submittal is based on a 3 degree glide slope to Runway 16 and Runway 2.

- (iv) July 28, 1998 – Submitted to the Orange County Board of Supervisors. The submittal expresses an opinion on an issue that the separation of parallel runways should be at least 2,500 feet and preferably 5,000 feet for simultaneous IFR operations, per FAA Advisory Circular 150/5300-13.
- (v) August 11, 1998 - Submitted to the Orange County Board of Supervisors. The submittal expresses the opinion that FAA should not approve an Airport Layout Plan that includes parallel runways with centerline spacings of less than 2,500 feet and therefore will also not approve funding of runway improvements proposed by alternatives considered by Orange County.
- (vi) September 1, 1998 - Submitted to the Orange County Board of Supervisors. The submittal was in response to proposed modifications of Airport Community Concepts B and C. The submittal contains a conceptual runway layout entitled “Alternative Airport and Open Space Plan Year 2020 Concept C As Recommended by the FAA in Advisory Circular AC 150/5300-13”. The runway layout depicts extension of the north-south runway on the south end to Bake Parkway.
- (vii) November 24, 1998 – Comments submitted on the Notice of Preparation of Draft EIR No. 573.
- (viii) December 1, 1998 – Comments submitted on the Notice of Preparation of Draft EIR No. 573. The submittal proposes a standard approach angle of 3 degrees to Runway 16.
- (ix) April 7, 1999 – Submitted to the El Toro Master Development Program in response to the Notice of Availability of Final EIR No. 563 Draft Supplemental Analysis. The submittal contains a concept plan entitled, “The Airport and Wildlands Ranch Plan Year 2020 Concept V”. The concept plan is dated 1/23/99. The concept is based on an approach angle of 3.1 degrees to Runways 16 and Runway 01.
- (x) May 7, 1999 – Submitted to the El Toro Master Development Program Office to offer comments on the “Green Airport Plan” dated April 29, 1999 and addresses water quality issues related to San Diego Creek and Serrano Creek. The submittal indicates an approach angle of 3.1 degrees is possible to Runway 16.
- (xi) October 5, 1999 – A document entitled “The Alternative Airport Runway Layout Long V and Short V FAA TERPS Analysis Feasibility Study”. The submittal includes an alternative layout in which the north-south runway is maintained north of the ~~AT&SF~~ Metrolink railroad tracks. A 3.3 degree glide slope is indicated for approaches to Runway 16. The submittal also includes the original runway concept in which the north-south runway is extended to Bake Parkway with approaches to Runway 16 using a 3.1 degree glide slope.

8.9.1.1 General Features of the Wildlands Ranch Alternative

The description of the concept provided by the proponent provides general information related to the proposed runway configuration. The alternative proposed did not address all aspects of the project, so assumptions were made with respect to the following information:

- (i) Information describing the role and the design demand level of OCX.
- (ii) Information regarding the role and design demand level of JWA.
- (iii) Information regarding the extent and specific location of airfield, terminal, landside and access facilities.

The “V” runway configuration utilizes the existing Runway 16L-34R and a new Runway 1-19. In the April 7 submittal, the south end of the existing Runway 16L-34R is proposed to be extended 7,000 feet. Since a total runway length of 18,000 feet is proposed and the existing runway length is 10,000 feet, it is inferred that the north end of the runway is extended 1,000 feet. A new 12,000 foot Runway 1-19 is proposed, and is generally aligned with the SR-133 Freeway. In the October 5, 1999 submittal, Runway 16L-34R is not extended as far to the south. The Runway 34R threshold is located within the “Measure A” boundary and does not extend into the “south panhandle” of the base property.

The rationale for the alternative runway configuration is to redirect air traffic patterns over vacant land southwest of MCAS El Toro, to permit the use of Runway 16 for arrival operations, and to eliminate the use of the existing east-west runways.

The first phase of this alternative would operate with no changes to the current Runways 16L and 16R. Runway 16L would initially be used for landing from the north, and 16R would be used for takeoffs to the south. Runway 34L would be used during Santa Ana wind conditions for VFR circle approach from the southwest, and 34R would be used for takeoffs to the north. Runways 7R/25L and 7L/25R are used only as a concourse for gateways to temporary terminals for initial operations, until the new terminal is constructed. The new Runway 1/19 would be constructed to allow simultaneous operations as FAA budget and grant funds are allocated. The new runway would be aligned with SR 133, and a three mile wide corridor of undeveloped land (wildlands) would become public land south of the Irvine Spectrum complex and extending to Crystal Cove State Park. This alternative also calls for Runway 16L/34R to be extended across the railroad tracks to Bake Parkway as FAA funds become available.

The proposed initial phasing of this alternative would require an approach glide slope of 3.3 degrees, which would preclude precision instrument approaches by all aircraft with an approach speed of 141 knots or more.

8.9.1.2 Attainment of Project Objectives

This alternative limits operations by certain aircraft types that could use MCAS El Toro. Aircraft with approach speeds of 141 knots or more (termed as Approach Category D) would not be provided a precision instrument approach to the primary arrival runway and, therefore, would not be accommodated by this alternative. The limitation on Approach Category D aircraft does not encourage the growth of air service opportunities such as international, domestic long haul, and cargo. As such, while this alternative allows a greater portion of locally generated air traffic demand to be served, it is not to the same degree as the Proposed Project. Certain business jet models are also affected by the Category D limitation and, therefore, general aviation opportunities are not fully enhanced. This is described in more detail later in this section in the evaluation of the short "V" alternative.

This alternative does not meet the objective of taking maximum advantage of the historical compatible land use regulation around MCAS El Toro, because the runway configuration, and hence noise contours, are substantially different from the military operation. While the alternative is intended to direct flights over vacant areas, these areas are planned for 3,000 to 5,000 homes and other noise sensitive uses in the City of Irvine and County General Plan.

8.9.1.3 OCX Facility Improvements for the Wildlands Ranch Alternative (April 7, 1999, Submittal)

Figure 8.12 summarizes the basic features of this alternative for OCX described below.

Airfield

Runway 16 is proposed as the primary arrival runway and the landing threshold of Runway 16 is assumed to be displaced approximately 7,100 feet, based on interpretation of a drawing dated January 23, 1999, and included in the proponent's submittal of April 7, 1999. The landing threshold of Runway 34 is also shown to be displaced an equivalent distance. Based on the configuration of the Inner Safety Zone depicted by the proponent's submittal, approximately 8,300 feet of runway length is available for takeoff on Runway 16. This is considerably less than the existing runway length of 10,000 feet and runway lengths included in other alternatives (i.e., more than 12,000 feet). It appears that the right-turn after takeoff proposed in this alternative would start too soon, and protection zones should actually be slightly farther south.

A new runway oriented in a northeast-southwest direction, and designated as Runway 1-19 is proposed along the northwest side of the base boundary, generally aligned parallel with SR 133. It is planned to be 12,000 feet long. The landing threshold of Runway 1 is shown to be displaced by approximately 1,100 feet.

It is proposed to use Runways 16 and 1 for landings, and Runways 19, 16 and 34 for takeoffs under this alternative. The submittal specifies a 3.1 degree glide slope for the

proposed precision instrument approaches for Runways 16 and 1. This is considered non-standard as it exceeds a standard glide slope of 3 degrees. Almost all commercial airports in the United States are equipped for precision instrument approaches with standard 3 degree glide slopes.

The runway centerline to parallel taxiway centerline separation scales to a dimension of 400 feet.

Evaluation of Proposed Airfield

Several aspects of the proposed airfield are discussed here. These include approach slope, capacity, runway length available for landing, runway markings, airfield geometrics, taxiway system and construction issues.

Approach Slope

The Alternative provides a non-standard approach angle of 3.1 degrees. Very few major commercial airports have non-standard glide slopes, and the other airfield alternatives considered in this EIR are based on a standard approach angle of 3 degrees.

Capacity

The capacity of this alternative is limited due to the fact that only one runway is available for arrivals. Substantial delays will result during peak arrival periods at 2020 demand levels. The Proposed Project includes two runways that can be used for arrivals during prevailing weather conditions. While one runway can accommodate off-peak arrival periods, the second runway provides the ability to reduce delays during peak arrival periods.

Data contained in FAA guidelines (FAA Advisory Circular 150/5060-5, Airport Capacity and Delay) indicate that the Proposed Project provides 25 to 30 percent more runway capacity than the "V" configuration. Therefore, the "V" runway configuration will not accommodate traffic as efficiently as the Proposed Project and will be subject to escalating delays during peak periods.

Runways

Analysis of precision instrument approaches from the north in accordance with TERPS was conducted by the aviation planning team. The TERPS analysis concluded that the required location of the landing threshold for a 3.1 degree glide slope is approximately 8,200 feet south of the end of the existing Runway 16L. Therefore, the landing threshold for Runway 16 needs to be located approximately 2,000 feet further south than depicted under this alternative. The maximum amount of runway extension to the south (towards Bake Parkway) that is usable for landings on Runway 16 is approximately 6,200 feet. Such an extension would provide a landing distance of approximately 8,050 feet. This landing distance is significantly less than landing distances provided by other alternatives

(approximately 9,900 to 10,400 feet). This is a marginal runway requirement to be used for the planning of the primary arrival runway at a new commercial airport with operations and role as forecast for the Proposed Project.

While the landing distances provided by other alternatives are greater than this alternative, it is also noted that other alternatives are based on a standard, 3-degree glide slope. The runway configuration in this alternative is operationally inferior to the other alternatives due to the combination of steeper approach angle and reduced landing length. Compared to other alternatives, the available landing length is unacceptable.

Runway Markings

The placement of Runway Protection Zones under this alternative (Figure 8.12) suggests that Runway 34 will be retained for precision instrument approaches. Therefore, it will be necessary to provide precision runway markings for both Runways 16 and 34. This will require relocating the landing threshold of Runway 34 approximately 4,200 feet to the south to accommodate runway markings. This may impact precision instrument approaches from the south. It would also displace arrival SENEL contours by an equivalent amount to the south, increasing single event noise levels in some existing residential areas.

Airfield Geometrics

The runway centerline to taxiway centerline separation of 400 feet is not adequate to accommodate future New Large Airplane (NLA) models that may operate at the airport. A separation distance of 600 feet is required. The airfield geometrics of the Proposed Project are such that NLA operations can be accommodated.

Taxiway Operations

The separation of the runway centerline to the face of the terminal concourse that is parallel to Runway 16-34 is approximately 1,000 feet as shown in Figure 8.12. This precludes development of dual parallel taxiways along the terminal, which suggests a high potential for bottlenecks and aircraft delays on the ground due to pushbacks and maneuvering to and from parking positions. Parallel taxiways for Aircraft Design Group V are possible under this alternative but would limit the size of aircraft at concourse parking positions to aircraft with fuselage lengths of approximately 125 feet, rendering the gates unusable by the majority of the commercial aircraft fleet.

The extension of Runway 16-34 to the south as proposed in this alternative results in long taxi distances for aircraft arriving on the primary arrival runway, on the order of two miles.

Construction Issues

This airfield concept requires considerable fill on the south end. The construction of runways under this alternative requires that several roads and ground access infrastructure be tunneled under runways. These include:

- i) Main airport entrance road
- ii) Airport perimeter road
- iii) Alton Parkway
- iv) ~~AT&SF~~ Metrolink railroad tracks and Borrego Canyon Wash
- v) Irvine Boulevard

The south end of the airfield will require significant fill. It is through this area of fill that Alton Parkway, the airport perimeter road and the railroad would be tunneled. The south end of the extension of Runway 16-34 is located in the City of Irvine, and pursuant to the State Aeronautics Act, City approval may be required. However, City approval of any airport facility would be inconsistent with the City's position on the Reuse Plan (see City Council Resolution 99-01 and Measure D, November, 1998).

Terminal and RON Parking

A linear terminal complex is proposed between the "V" shaped runways. Details on the terminal have not been documented by the proponent, however, based on the concept drawing the terminal provides approximately 9,000 linear feet of ramp frontage to accommodate aircraft contact gates at the terminal. This is considerably less ramp frontage and fewer gates than that provided by the terminal concept under the Proposed Project which provides over 11,500 feet of ramp frontage.

The face of the concourse that is parallel to Runway 16-34 is approximately 1,000 feet from the runway centerline. As previously indicated, this prevents the development of dual parallel taxiway capability which is important for efficient airfield operations. The terminal setback from the runway also affects the size of aircraft in terms of tail heights that can park at the terminal (in accordance with obstruction criteria specified in Federal Aviation Regulations Part 77, Objects Affecting Navigable Airspace). Aircraft parking areas need to be sufficiently separated from the runway so that parked aircraft are not obstructions as defined in FAR Part 77. If an aircraft parking limit line is assumed at a distance of 300 feet from the face of the terminal concourse in this alternative, the maximum tail height permitted at this line is 28.6 feet above the elevation of the nearest point of the runway centerline. Tail heights of the MD-11 and B747 exceed 57 and 64 feet, respectively, and would be precluded from parking at the concourse, as well as other aircraft that would be obstructions under FAR Part 77.

Remain Overnight Parking (RON) is not indicated on the concept drawing included in the proponent's submittal of April 7, 1999 (Figure 8-12).

Access and Parking

Terminal Access

Primary access to the terminal complex would be provided at Trabuco Road and Barranca/Alton Parkways near the Irvine Transportation Center (ITC). Trabuco Road would cross under the proposed Runway 1-19 and connect directly to the terminal loop road. A new access road from Barranca/Alton Parkways would cross over the railroad tracks and connect to the terminal loop road north of the proposed Airport Transportation Center (ATC). Secondary terminal access would be provided by Marine Way which would be realigned at the south end of Runway 1-19.

It is assumed that the terminal loop road is at-grade (as there is no indication or provision for ramps in the proponent's submittal). Vehicles would circulate counterclockwise along the terminal loop road.

Assessment

The connection of Trabuco Road to the terminal loop road poses some technical and safety concerns.

The technical aspect pertains to the need to provide adequate distance from edge of the runway area for vertical gradient. A gradient of six percent, the standard used in other alternatives, could be accommodated over a distance of approximately 330 feet. The Alternative does not provide such distance. Thus, a steeper, substandard gradient would have to be used.

The safety aspect pertains to connecting the depressed segment of Trabuco Road directly to the terminal loop road immediately at the end of the tunnel. This intersection would have to be signalized. Due to the depression, drivers could not readily see the oncoming intersection, making it prone to accidents. Warning signals would need to be installed in the tunnel to alert drivers of the signal ahead. Furthermore, vehicles would be queued in the tunnel on Trabuco Road due to signalization. This could result in unsafe conditions since drivers of vehicles entering the tunnel could not immediately see the end of the queue. Vehicle queuing within the tunnel is also expected to result in an unhealthful concentration of vehicle fumes.

Angular bends on the terminal loop road, particularly the ones in front of the north and south terminal buildings, could result in traffic bottlenecks due to vehicles slowing down at bends. A single level terminal road suggests the potential for congestion due to the mixing of arrival and departure traffic which is separated by multi-level terminal roads in the Proposed Project.

Parking

This alternative provides three parking areas on a total of approximately 125 acres. All parking areas are inside the terminal loop road. It is assumed that these areas would accommodate short term, long term and employee parking as well as rental car facilities.

Assessment

The total parking area provided in this alternative is roughly equal to the on-site short term, long term, employee and rental car areas provided in the Proposed Project. If this alternative is to accommodate the same air passenger level as forecast for the Proposed Project, additional remote areas would have to be provided. In the Proposed Project, remote parking areas are conveniently located in the Northern Panhandle. This alternative does not have such area that could be easily accessed from the terminal. The parking area shown on the east-side of Runway 16-34 is not ideally suited for remote public parking.

Furthermore, since all parking areas in this alternative are inside the terminal loop road, employee and rental car traffic would have to mix with terminal (short term, long term and curbside) traffic. This would substantially add to the volume of traffic using the terminal loop road and, together with the effect of roadway bends discussed above, could lead to severe traffic congestion on the terminal loop road.

Non-Terminal Roadway Access

Primary access to the air cargo area would be provided by Alton Parkway. Although there are existing I-5 interchanges at Alton Parkway and Bake Parkway, their location would force air cargo truck traffic to use local streets.

The tunnel section of Irvine Boulevard under Runway 1-19 raises similar safety and air quality concerns as discussed for Trabuco Road. Westbound traffic on the Irvine Boulevard tunnel would immediately encounter the signalized intersection at the SR 133 northbound on/off ramps on exiting the tunnel. Also, traffic would be queued under the tunnel on the westbound approach to the intersection, which could result in unsafe driving and air quality conditions.

8.9.2 OCX Facility Improvements for the Wildlands Ranch Alternative (October 5, 1999, Submittal)

Figure 8-12A summarizes the basic features of this alternative (Wildlands Ranch Plan Alternative 1) for OCX described below. Figure 8-12B (Wildlands Ranch Plan Alternative 2) presents a variation of the alternative.

8.9.2.1 Airfield

The major difference between this concept and that reflected in the April 7 submittal is that the north-south runway (16-34) is not extended as far south in order to locate runways entirely within the "Measure A" boundary. This results in a potential runway length of 12,000 feet which is achieved by constructing 1,000 foot extensions on each end of the existing Runway 16L-34R. Runway 16 would be the primary arrival runway. The runway would be equipped for precision instrument approaches with a specified glide path angle of 3.3 degrees. The proponent states that 8,000 feet of runway would be available for landing which suggests the landing threshold is displaced 4,000 feet.

The primary departure runway, Runway 19, is proposed in the concept at a length of 10,000 feet, and expandable to a length of 12,000 feet. The ultimate length is achieved by constructing a 2,000-foot extension on the end of Runway 19. Runway 19 is also equipped for precision instrument approaches. The submittal specifies a 3.1 degree glide slope for Runway 19. The runway is proposed for arrivals during Santa Ana wind conditions and also to accommodate arrivals of Approach Category D aircraft. The elevation of the end of Runway 19 is indicated at 300 feet MSL. This is approximately 60 feet more than the existing ground elevation and will require significant fill.

The proposed airfield of the October 5, 1999, submittal (Alternative 1) is assessed below with respect to those factors considered for the April 7, 1999 submittal.

Approach Slope

A non-standard approach angle of 3.3 degrees is specified for the primary arrival runway, Runway 16. This precludes use of the runway for arrival operations by aircraft with approach speeds of at least 141 knots. This includes the following aircraft commercial transport aircraft: L-1011, DC-10-30, DC-10-40, DC-8-61, DC-8-63, MD-11, B747 (all models), B777, B767-300, B757-300 and the B737-800. It also precludes approaches by Gulfstream II, IV and V, and Lear 35 business jets. The submittal suggests a strategy for accommodating Approach Category D aircraft whereby Runway 19 is used for arrivals by these aircraft. As explained herein, this would be a "counter-flow" or head-to-head operation and raises safety and capacity concerns.

A 3.3 degree glide slope would have landing minimums of 250 foot decision height and visibility of $\frac{3}{4}$ miles. These are slightly higher than standard Category I minimums of 200 $\frac{1}{2}$.

Runway 16 Approach

The development of the instrument approach procedure for Runway 16 contained in the submittal does not include adverse obstacle assumptions and allowance for precipitous terrain. These factors are typically applied by FAA in the development of instrument

procedures and most likely would be applied for instrument procedures at El Toro. These were applied in the previous assessment of instrument approach procedures conducted as part of the Airport System Master Plan and are prudent for the planning of a new airport.¹ Considering these allowances and the proposed approach procedure for Runway 16, it is found that a 3.3 degree glide slope is not possible for the proposed landing threshold. In order to provide a 3.3 degree glide slope the landing threshold would have to be displaced an additional 1,900 feet to the south. If the proposed landing threshold is retained, a glide slope angle of 3.6 degrees would be required to provide adequate obstacle clearance.

The options of additional displacement of the landing threshold or a steeper (3.6 degree) glide slope required to implement an acceptable approach procedure, render the proposed concept of Runway 16 arrivals not feasible for a new commercial airport. Even if a 3.3 degree approach procedure could be developed in accordance with standard FAA practices, it is not a desirable basis for planning the main arrival runway at a commercial airport.

Runway 1 Approach

An analysis of the proposed approach for Runway 1 concluded that a glide slope of 3.1 degrees is possible for the proposed landing threshold location and elevation.

Runway 19 Departures

Departures on Runway 19 will require a minimum climb rate of 300 feet per nautical mile to an altitude of 1,600 feet MSL before resuming a standard rate of climb.

Approach Category D Aircraft Limitations

The steep glide slope proposed for Runway 16 prevents the use of the runway for arrival purposes by aircraft with approach speeds of 141 knots and greater. It is estimated that this restriction would affect 29,700 aircraft arrivals projected for the Proposed Project in 2020 (see Table 8.9-1), or 21 percent of all commercial aircraft arrivals forecast for OCX in 2020.

As may be noted in Table 8.9-2, several market segments are particularly impacted, including passenger arrivals on Asia-Pacific routes (100 percent of arrivals), Atlantic routes (72 percent), and domestic long-haul routes (33 percent of arrivals), as well as all-cargo arrivals on international routes (94 percent of arrivals) and domestic routes (32 percent of arrivals). If these operations cannot be accommodated at the airport, the ability of the airport to provide the range of services envisioned under the Proposed Project would be severely limited, particularly for international passenger and cargo markets.

¹ Instrument Flight Procedures Analysis Final Report. K&M Consultants. May 1998.

**Table 8.9-1
Summary of Arrivals by Type of Aircraft Impacted by Short "V"
Alternative Airport Runway Layout at OCX in 2020**

Aircraft Type	Annual Arrivals¹	Percent Total
A340	2,823	10%
A3XX/B7XX	1,583	5%
DC10	631	2%
MD11	4,853	16%
737-800	1,599	5%
747	4,894	16%
757-300	1,064	4%
767-300/400 (some)	5,695	19%
777	6,558	22%
Total	29,698	100%

Source: P&D Aviation

NOTE: [1] Number of Category D aircraft operations based on the projected fleet mix reflected in the Proposed Project.

**Table 8.9-2
Summary of Impact Short "V" Alternative Airport Runway Layout on Projected
Aircraft Arrivals at OCX in 2020**

	Annual Operations		% Arrivals Impacted
	Alt B	Impacted [1]	
Passenger Arrivals			
Domestic			
Regional/Commuter	19,950	0	0%
Short Haul	36,400	543	1%
Medium Haul	27,650	3,544	13%
Long Haul	23,150	7,635	33%
Subtotal-Domestic	107,150	11,721	11%
International			
Latin America	5,650	867	15%
Atlantic	2,900	2,091	72%
Asia-Pacific	8,850	8,850	100%
Canada/Other	1,000	111	11%
Subtotal-International	18,400	11,918	65%
Total Passenger Operations	125,550	23,639	19%
All-Cargo			
Domestic	10,350	3,286	32%
International	2,950	2,774	94%
Total-All Cargo Operations	13,300	6,060	46%
Total Commercial Operations			
Total Commercial Operations	138,850	29,699	21%

Source: P&D Aviation

NOTE: [1] Number of Category D aircraft operations based on the projected fleet mix reflected in the Proposed Project.

Alternative Category C equipment providing similar lift capacity is available to substitute for some of the aircraft impacted by the restriction. Examples of alternative aircraft include the A320/321 and B737-400 for the B737-800, and the A300 and A330 for the B757-300 and B767-300/400. However, there are effectively no alternative non-Category D aircraft available to replace the larger aircraft affected by the restriction.

The fleet mix of individual airlines that choose to provide service at the airport will dictate the availability of these particular aircraft types. Since most domestic airlines and many international airlines have at least some of the impacted aircraft types in their fleet, it is reasonable to expect that a constraint at OCX that would restrict the flexibility of the airlines to assign equipment to the airport would place OCX at a competitive disadvantage relative to other airports in the region without such restrictions. This would further limit the ability of OCX to provide the range of services anticipated under the Proposed Project.

The submittal suggests a strategy for accommodating Category D arrival operations. This is achieved by using Runway 1 for arrivals. The proposed strategy involves a counterflow operating configuration in which departures from Runway 16 would track outbound in the opposite direction of arriving aircraft. Such an operating mode raises safety and capacity concerns.

Capacity

The assessment of capacity issues for the April 7 submittal also applies to the October 5, 1999, submittal. However, the concept is less efficient than the April 7 submittal from the standpoint that it suggests an operating mode that promotes counterflow operations. This operating mode is proposed as a means of overcoming limitations on arrivals by Approach Category D aircraft that are inherent in the alternative.

The assessment of Category D limitations concluded that approximately 21 percent of the forecast fleet mix cannot use Runway 16 (the primary arrival runway) and must use Runway 1 for arrivals. Use of Runway 1 for arrivals will close down the primary departure runway (Runway 19) during these periods. Considering that Category D arrivals can be expected on a regular basis throughout the day suggests that inefficiencies at best can be expected due to the frequent need to change operating configuration of the runways.

Flight Tracks

Proposed flight tracks are basically “straight-in” and “straight-out” for arrivals and departures with the exception of departures on Runway 16. The proposed departure specifies a right turn be commenced shortly after takeoff, followed by a left turn so that the departure track parallels that of Runway 19. The turning departure is intended to avoid residential communities of Laguna Village, Leisure World and Laguna Hills. The ability to avoid these noise sensitive areas and follow the depicted flight tracks will be controlled by the point at which turns actually occur and the radius of turn that is executed.

The following comments are based on data depicted on an exhibit entitled "Proposed Flight Paths The Alternative Airport" contained in the October 5, 1999, submittal. The submittal indicates that the right turn out on departure will be initiated approximately 5,000 feet from brake release with a turn radius of approximately 1 nautical mile. After turning approximately 50 degrees from the runway heading, a left turn is executed to parallel the departure track of Runway 19.

This is not representative of the flight tracks that could be expected by the proposed operation. First, many aircraft would commence the proposed initial right turn out farther south than depicted. A distance of 8,000 feet from brake release is reasonable, and it is understood that some aircraft would require longer distances. Taking this into account, the proposed departure track would then over fly the northern edge of the noise sensitive area. Secondly, larger turn radii than that which has been assumed would direct the departure track farther south such that a greater portion of residential area is over flown. The flight track as shown does not reflect the normal range of ground tracks that can be expected due to dispersion. Lastly, the flight track is based on the assumption that a departure procedure involving the proposed double turns will be implemented. If a procedure based on only a right turn is employed, this would result in over flight of the greatest portion of the Laguna Village area.

Runway Length Available for Takeoff

Geodetic computations of the runway end coordinates given for Runway 1-19 indicate a length of 9,333 feet (versus a length of 10,000 feet depicted in the submittal). Taking into account the need to provide required runway object free area, a takeoff length of approximately 9,000 feet is available on Runway 19 with the "Short V" Alternative Runway Layout presented in the submittal. This takeoff distance is significantly less than the takeoff distances provided by other alternatives (takeoff lengths greater than 11,000 feet are available under the Proposed Project).

Runway Length Available for Landing

The review of the Runway 16 approach procedure concluded that the proposed landing threshold location cannot be assumed to provide a 3.3 degree approach slope. A 3.6 degree glide slope is possible for the proposed landing threshold location. In order to provide a 3.3 degree glide slope the landing threshold would need to be displaced an additional 1,900 feet to the south. Considering the need to provide 1,000 feet of Object Free Area beyond the stop end of the runway results in an available landing distance of approximately 5,800 feet. This landing distance is significantly less than the landing distances provided by other alternatives (as previously indicated to be approximately 9,900 to 10,400 feet).

It was previously stated that geodetic computations of the runway end coordinates given for Runway 1-19 indicate a length of 9,333 feet. When requirements for runway object free area are taken into account this results in an available landing distance of approximately 8,400 feet for the Short V configuration. This landing distance is significantly less than the landing distances provided by other alternatives.

Airfield Geometrics

The conclusions stated for the April 7 submittal apply to this alternative airport configuration.

Taxiway Operations

Previously stated inefficiencies of the April 7 submittal due to the inability to provide dual parallel taxiways in the terminal area are also inherent in this concept.

8.9.2.2 Terminal and RON Parking

A linear terminal complex is proposed and is located in between the “V” shaped runways. A difference between this concept and the April 7 submittal is that retail uses previously proposed in the terminal building appear to have been eliminated with the building area used for aircraft gates. This would provide an additional 1,100 feet of ramp frontage (approximately 10,100 feet overall). This is less than that provided by the preferred terminal concept (which provides over 11,500 feet of ramp frontage).

As previously described for the April 7 submittal, the setback of the terminal from the runway will limit the heights of aircraft that can park along the face of the building. RON parking is not included in the concept.

8.9.3 Nonaviation Revenue Support Uses

Although not specifically included in the proponent’s information about this alternative, it is assumed that nonaviation uses similar to those included in the Proposed Project would be included. Because of the runway configuration, this alternative would not have the same space available for the wildlife habitat area and preservation of existing agricultural uses as the Proposed Project.

8.9.4 Environmental Impacts of Wildlands Ranch Alternative

8.9.4.1 General Impacts

As previously discussed, this alternative presents serious technical and feasibility concerns. Due to these unresolved issues, the alternative could not feasibly attain most of the project basic objectives. With respect to environmental impacts, while some impacts under this alternative would be similar to those of the Proposed Project, this alternative would not avoid or substantially lessen impacts projected to result from the Proposed Project. In fact, this alternative would result in a number of impacts that would be greater than the Proposed Project, including noise and biological resources, as discussed below.

8.9.4.2 Noise

Review of this alternative indicates it may produce the greatest noise impacts of any alternative considered in the El Toro Master Planning Process.

This alternative, as presented by the Proponent, includes several noise footprints which are referenced as produced by the County's consultants. In fact, none of the noise contours included in the proponent's submittal were generated or reviewed by the County except for those that are direct reproductions of contours provided by the County consultants for the Proposed Project. Noise contours which are purported to reflect SENEL and CNEL contours for this alternative were not produced by the County consultants and are not credible representations of the noise footprints that would be created by this alternative.

This alternative assumes departures to the south on Runways 19 and 16. The Runway 19 departures would not expose existing residential uses to noise levels in excess of 65 CNEL. However, the track from Runway 19 would overfly a portion of the Irvine Meadows Amphitheater and near the Irvine Medical Center. The associated noise levels would probably exceed FAA Part 150 recommended noise levels for such uses as well as exceed County of Orange and City of Irvine noise standards for such uses.

The Runway 16 departures assume a right turn "as soon as possible." It is these right turns that cause the greatest noise impact on existing noise sensitive uses. If the turns do not occur very early, the 65 dB CNEL contour would likely impact most of the residential areas of Laguna Village, part of Laguna Hills and potentially Laguna Woods. Should residential uses be allowed in the Irvine Spectrum area by the City of Irvine, then these residential areas would also be impacted by planes taking off of Runways 19 and 16. The extent of the noise impact will depend on where aircraft departing Runway 16 make their turns and how small a radius is used for those turns. For the CNEL contour to impact no residential uses, the turns would have to be completed prior to reaching the present end of Runway 16, not the proposed relocated end of Runway 16. This would require a very sharp turn very early in

the departure procedure. This turn would be highly unlikely for heavy aircraft and subsequent late turns by heavy aircraft would impact Laguna Village, Laguna Hills and Leisure World. Given the typical dispersion associated with this right turn, the expected 65 dB CNEL contour would impact more residential uses than any other Alternative considered. Other than this alternative, only Alternative J impacts residential uses with noise in excess of 65 dB CNEL.

These conclusions were based on the size and shape of the CNEL contours shown for Alternative A but applied to the runway configuration under this alternative. The Alternative A contours were assumed because the runway capacity of this alternative is less than the Proposed Project. If noise contours for the Proposed Project are applied, the impacts would be greater than those indicated above.

The 65 CNEL for this alternative would affect seven residential planning areas in the City of Irvine and the City's Sphere of Influence. While there are few, if any, residential units currently constructed in these planning areas, all of them include major future residential planned communities or villages that would be affected by the 65 CNEL. The departure corridor would result in a 65 CNEL affecting approximately 1,200 dwelling units proposed in Planning Area (PA) 33, 2,030 units allocated by the City General Plan to PA 17, and 750 units allocated to PA 18 for a total of 3,980 dwelling units. In addition to these units, the 65 CNEL could affect dwelling units in PA 22 and the Laguna Laurel Planned Community depending on the extent of the 65 CNEL and the final development plan for the Laguna Laurel Planned Community (this planned community would permit up to 2,042 dwelling units).

The arrival corridor 65 CNEL for this alternative would affect PAs 2, 5, and 9 in the City's Sphere of Influence, which also include planned residential units. However, most of the area affected by the 65 CNEL has been enrolled in the NCCP Program. The approach corridor 65 CNEL would also affect residential development planned in the East Orange General Plan. However, no zoning or development plans have been proposed for these future residential areas, so the impact cannot be estimated reliably. Based on plans available, the alternative is expected to impact 3,000 to 6,000 future homes.

Mitigation of the 65 CNEL impacts on existing and future residential development is not feasible. There is no mitigation for exterior noise levels of 65 CNEL or higher that would reduce the effects of aircraft noise on existing housing. In addition, amendments to the City of Irvine and County General Plans to eliminate or relocate thousands of future residential units is infeasible because there are no alternative locations for the 3,000 to 6,000 future units affected by the 65 CNEL. Most of the remaining unentitled lands (30,000+ acres) in central Orange County have been enrolled in the NCCP Program. In addition, amendment to the City's Conservation/Open Space Plan to accommodate transfer of dwelling units is not considered feasible and may require a City ballot measure. Purchase of the development rights for these units would be prohibitively high.

For these reasons, this alternative would have a significant adverse noise impact, which would not be reduced by feasible mitigation measures. Therefore, this alternative would have the greatest adverse noise impact of any of the alternatives analyzed herein.

8.9.4.3 Biological Resources

This alternative is substantially different from any of the other alternatives considered in several ways. One of the differences is how the concept accommodates the federal Habitat Reserve. The nonaviation land use component does accommodate a wildlife habitat area, although the southerly portion of this area is substantially narrower than under Proposed Project.

Under this alternative, the extension of existing Runway 16L-34R restricts available open space to the extreme east side of the MCAS El Toro site. This more narrow, constricted area requires the realignment and reconfiguration of the federal Habitat Reserve. South of the proposed Jeronimo Road extension there is a narrow area reserved for wildlife use. The area is constrained by the runway extension on the west and the airport property to the east. This narrow segment of the wildlife area extends an estimated 7,000 feet before a new wildlife corridor underpass is provided at Bake Parkway. The width of the wildlife area is estimated at 500 feet, with the runway and manicured aviation land to the west and an industrial park immediately adjacent to the east. This alternative relocates the wildlife underpass at I-5 to the San Diego Creek outlet, rather than at Serrano Creek. This relocation lengthens the wildlife habitat area on the MCAS El Toro site. To accommodate this area, the Alternative requires the realignment of Serrano Creek to join with San Diego Creek, south of Bake Parkway. This realignment represents a new impact to soft bottom habitat not reflected in the Proposed Project.

The most substantive difference between this alternative and the Proposed Project is the wildlife habitat area configuration. In addition to the changes discussed on the southern portion of the area, there are some modifications to the north. The access into the Habitat Reserve occurs further to the east and accommodates a new equestrian use.

This alternative does not share some of the project components discussed for the Proposed Project, or they vary in their locations. For example, there is no provision for Astor Road. The Alton/Barranca intersection is relocated and reconfigured. There is no provision for the future Rockfield alignment, which is inconsistent with the Master Plan of Arterial Highways. Serrano Creek is realigned to the east with a new culvert requirement at Bake Parkway to transition into San Diego Creek. These modifications constrain and lengthen the Wildlife Habitat area, subjecting this area to additional nighttime illumination and to more contiguous aircraft activity, and reduce golf and agricultural open space buffers relative to the Proposed Project. The alternative is not expected to be as functional for wildlife movement as that proposed as part of the Proposed Project due to the narrower width and proximity to more indirect aviation activities along the runway extension.

With the exception of differences in the wildlife habitat area, this alternative is not expected to generate substantially different direct impacts on biological resources than under the Proposed Project. Direct impacts to native plant communities, wildlife, wildlife dispersion corridors and special interest species are very similar to the Proposed Project. Indirect impacts resulting from aircraft overflights are discussed below.

The flight tracks under this alternative are also substantially different from the Proposed Project. Similar to Alternative J, there are no direct overflights associated with the federal Habitat Reserve due to the elimination of the east-west runway. The aircraft overflights are generally reversed and aircraft generally land from the north and depart to the south. One of the purposes of this runway configuration is to direct overflights into a different area of the San Joaquin Hills, rather than having overflights over the populated Aliso Viejo area. These overflights would occur in the Shady, Bommer, Moro Canyon areas, that are a part of the NCCP reserve. Similar to the Proposed Project, these overflights are not expected to result in substantially new biological resource impacts.

8.9.5 Conclusions

The alternative limits operations by certain aircraft types. The limitation does not encourage the growth of air service and general aviation opportunities. Service opportunities such as international, domestic long haul, and cargo are not accommodated by the alternative. Thus, aviation demand is not served, and economic growth is not enhanced to the same degree as the Proposed Project. The alternative is technically inferior to the Proposed Project and other alternatives with respect to several airport planning issues. The alternative also impacts residential land uses to noise in excess of 65 dB CNEL.

8.10 LAND USE ALTERNATIVES AT FORMER MCAS EL TORO

This section evaluates possible alternatives to the nonaviation uses on the MCAS El Toro site under the Proposed Project for the purpose of reducing any significant adverse impacts pertaining to the nonaviation uses to below the level of significance. In both alternatives, the aviation-related land uses of the Proposed Project would remain the same as described in Chapter 3.0. These alternatives to the nonaviation uses do not affect the ability of the Proposed Project to meet the general project and aviation related objectives.

8.10.1 Nonaviation Revenue Support Area Alternative 1

In summary, this alternative was selected for analysis because it has the potential to lessen the project impacts on Prime Agricultural Soils, traffic, and traffic related impacts while still obtaining most of the objectives of the project.

Figure 8-13 shows the proposed Nonaviation Revenue Support Area Alternative 1 land use plan and Table 8.10-1 shows the proposed land uses and acreages by parcel. In summary, in comparison to the Proposed Project, this alternative would:

1. Delete the Business Park uses in Planning Area 7 and retain the existing agricultural uses to reduce the loss of Prime Agricultural Soils.
2. Relocate the Regulation Golf Course from the southerly portion of Planning Area 3 (thus retaining approximately 120 acres of Prime Agricultural Soils to the northerly portion of Planning Area 2 replacing (a) Regional Park uses and (b) Cultural/Institutional uses planned in the Proposed Project (formerly military housing areas). Cultural/Institutional uses would be reduced from approximately 80 acres to approximately 40 acres in Planning Area 2. Approximately 160 acres of Regional Park uses would be reclassified to Golf Course uses. The equestrian stable area in the Proposed Project (Parcel 2-2) would remain unchanged (approximately 36 acres).
3. Relocate the Vehicle Maintenance Yard and the State Department of Education Warehouse from Planning Area 5 to Planning Area 3, deleting an equal area of Regional Park uses in the high aircraft noise portion of Planning Area 3. This change from the Proposed Project would reduce the loss of farm lands by about 64 acres in Planning Area 5.
4. Relocate the proposed Executive Golf Course from Planning Area 7 to the location of the existing (former military) golf course in Planning Area 3. This change would reduce the loss of Prime Agricultural Soils in Planning Area 7 by approximately 98 acres.

**Table 8.10-1
Nonaviation Revenue Support Area Alternative 1**

LAND USE	LU CODE	ACRES
Agriculture	5-1a	102.76
Agriculture	3-1b	45.07
Agriculture	3-1c	13.03
Agriculture	3-1d	166.58
Agriculture	3-1e	78.98
Agriculture	3-1f	18.57
Agriculture	7-1g	22.22
Agriculture	7-1h	70.35
Agriculture	7-1i	6.24
Agriculture	7-1j	181.40
Agriculture	7-1k	33.05
Agriculture Total		738.25
Park Uses	2-2	35.94
Park Uses Total		35.94
Golf Course (North)	2-3a	197.26
Golf Course (North)	2-3b	41.24
Golf Total		238.50
Habitat Reserve	6-5a	970.45
Habitat Reserve	3-5b	20.64
Habitat Reserve Total		991.09
Restricted Open Space	8-6a	12.98
Restricted Open Space	8-6b	4.64
Restricted Open Space	8-6c	68.83
Restricted Open Space	8-6d	32.45
Restricted Open Space	8-6e	11.42
Restricted Open Space	8-6f	16.29
Restricted Open Space	7-6g	30.16
Restricted Open Space	7-6h	9.14
Restricted Open Space Total		185.92
Marshburn Retarding Basin	5-7	38.87
Retarding Basin Total		38.87
Airfield Total	8-8	1,120.03
Airfield Total		1,120.03
Parking	5-9a	63.65
Terminal and Parking	1-9b	481.10
Terminal and Parking Total		544.75
Airport Shuttle Rail Yard	4-10a	12.53
Airport Transportation Center	4-10b	9.34
Transportation Facility Total		21.86

LAND USE	LU CODE	ACRES
Cargo (west)	4-11a	137.59
Cargo (east)	3-11b	56.08
Cargo Total		193.67
In-flight Catering	2-12a	17.07
Aviation/Industrial Related	2-12b	99.49
Control Tower	2-12c	4.00
FBO/Corporate Aviation	2-12d	54.28
ARFF	2-12e	4.00
Airport Maintenance	3-12f	25.71
Airline Maintenance	3-12g	46.41
Ground Service Equipment	4-12h	14.00
Fuel Storage	4-12i	14.30
Aviation Support	4-12j	5.45
Aviation Support Total		284.72
Vehicle Maintenance Yard	3-13a	57.40
Food Distribution Warehouse	3-13b	6.18
IRWD Reservoir and Pumping	3-13c	5.73
Fire Station	3-13d	1.20
California Air National Guard	3-13e	25.36
IRWD Facility	3-13f	9.00
Homeless Service Providers	4-13g	28.29
Fire Station	4-13h	1.00
Public Facilities Total		134.16
Cultural Institutional	2-16	8.00
Cultural Institutional Total		8.00
Roads and Easements		156.62
Roads and Easements Total		156.62
GRAND TOTAL		4,692.38
1- Planning Area		

8.10.2 Environmental Impacts of Nonaviation Revenue Support Area Alternative 1

Compared to the Proposed Project, this alternative is intended to reduce the project impacts on traffic (and traffic related impacts such as air quality and highway noise) and on Prime Farm Lands. This alternative would result in a net reduction in Regional Park acreage, a net increase in farm lands, and elimination of the Business Park as further described below. In addition, this alternative reduces the aircraft noise impacts on recreational uses by reducing the planned recreation areas in the high noise impact areas (i.e., 70+ CNEL).

The alternative would also reduce the development costs for Regional Park uses and Cultural/Institutional uses, and eliminate development costs for the Business Park. The alternative would slightly increase revenues from farm land leases, reduce revenues from Cultural/Institutional and Regional Park uses, and eliminate revenue from the Business Park.

Land Use

Compared to the Proposed Project, this alternative would result in a reduction in the lands planned for the Business Park and Cultural/Institutional uses, an increase of approximately 379 acres of farm lands, and relocations of the recreational uses, the Vehicle Maintenance Yard, and the State Department of Education Warehouse uses. No changes are proposed to aviation uses, aviation support uses, habitat uses, or other public facilities (e.g., homeless providers, IRWD, OCTA rail yard and ANG). As with the Proposed Project, there would be no significant impact related to land use compatibility.

General Plan Consistency

The adjustments to nonaviation revenue support use do not affect the need for General Plan Amendments compared with the Proposed Project.

Transportation and Circulation

This alternative would reduce the trips generated by the Project as follows:

LAND USE	CHANGE IN TRIP GENERATION:			% CHANGE
	AM PEAK	PM PEAK	TOTAL	
Business Park	-1,735	-1,566	-15,775	(-100%)
Cultural/Institutional	-390	-350	-3,920	(-50%)
Regional Park	-149	-179	-3732	(-81%)
Agricultural Uses	+4	+4	+798	(+480%)
Total	-2,270	-2,091	-22,629	(N/A)

In summary, this alternative would reduce the Proposed Project trip generation as follows:

PROJECT CASES:	TRIP GENERATION FOR OCX AREA:		
	AM PEAK	PM PEAK	TOTAL
Proposed Project:	11,498	12,796	176,123
Alternative:	9,228 (-20%)	10,705 (-16%)	153,494 (-13%)
Existing Conditions:	2,200	2,300	25,400

This alternative would reduce the peak hour trip generation by 20 percent in the morning peak hour and 16 percent in the afternoon peak hour, which is a significant reduction. This alternative could result in a measurable reduction in peak hour conditions east and southeast of the OCX project area.

Elimination of the Business Park and relocation of the Executive Golf Course would have a measurable reduction in trips on Rockfield Drive, Alton Parkway, Bake Parkway, Barranca Parkway, and the I-5 Freeway ramps in the vicinity of the Business Park site. The relocation of the Vehicle Maintenance Yard and State Warehouse would reduce trips on Portola Parkway between Sand Canyon and the Foothill Tollroad and increase by an equal amount the trips on Irvine Boulevard between Sand Canyon and Bake Parkway. This increase would be partially offset by reductions in trip generation for Cultural/Institutional uses and regional park uses. The increase in agricultural trips and relocation of Regulation Golf Course trips would have insignificant effects.

The traffic impacts of the Proposed Project are reduced by mitigation measures to a level of insignificance. Therefore, this alternative would not result in a different conclusion regarding project impacts. However, this alternative would reduce the extent and costs of required mitigation for traffic impacts, and would reduce traffic impacts in congested areas to the east and south of the project site, especially in the Spectrum and Lake Forest areas.

Aviation Compatibility

The alternative would virtually eliminate recreational uses (i.e., golf course areas) within the Safety Zones for the Proposed Project and retain most of the existing agricultural uses located in these Zones. In addition, this alternative would virtually eliminate Regional Park-type uses within high aviation noise areas (i.e., 70+ CNEL).

Since Golf Courses and Regional Park-type uses proposed in the Safety Zones and high aviation noise areas are considered compatible land uses, the Proposed Project would not result in recreational uses being incompatible with aviation activities. Therefore, this alternative would not change the conclusions of the Proposed Project impact analysis.

Air Quality and Highway Noise

This alternative would reduce the highway traffic (mobile source) air quality emissions by about 13 percent, and total on-site generated project emissions by approximately 5 percent.

Highway noise impacts in the project area would be reduced significantly compared to the project case on Rockfield Drive in and near the site, and to a lesser degree on Bake Parkway, Alton Parkway, and Barranca Parkway. Highway noise would be reduced on Portola Parkway near the project site to a less than significant level. However, highway noise would be increased on Irvine Boulevard in and near the project site to a less than significant level.

This alternative would not result in a different conclusion regarding project impacts. However, this alternative would measurably reduce the total project air quality emissions due to mobile sources, and would measurably reduce highway noise impacts in some areas near the project site.

Recreation

This alternative would reduce the amount of active and passive types of recreational uses included in the proposed regional park area, retain the project proposals for equestrian stables, and Executive Golf Course and a Regulation Golf Course, and increase farm land for an overall insignificant change in total open space. Therefore, this alternative would have approximately the same effects as the Proposed Project in providing open space in the rapidly urbanizing central and southern Orange County area. This alternative would preserve less open space, however, than would be preserved by the No Project/No Activity Alternative, but the alternative would provide a larger amount of active recreational uses (i.e., two golf courses) compared to the No Project case.

However, this alternative would result in a large reduction in Regional Park-type uses compared to the Proposed Project. The demand for active (e.g., ballfields) and passive (e.g., picnicking) Regional Park-type uses in the project area is significant, and recreational surveys for the project and studies by the County and nearby cities demonstrate a significant unmet need. This alternative would reduce or eliminate the opportunity to meet this demand. Therefore, this alternative would be inferior to the Proposed Project in meeting the demand for Regional Park-type recreational uses.

Natural Resources and Energy

This alternative would increase the amount of agricultural lands from approximately 139 acres under the Proposed Project to approximately 517 acres. Per Section 4.1.6 of the Draft EIR, the Department of Navy leased approximately 1,040 acres for agricultural uses at the OCX site, of which 726 acres have been classified as "Prime Farmland" and 92 acres have been classified "Farmland of Statewide Importance" by the U.S. Department of Agriculture, Natural Resources Conservation Service.

According to Section 4.11.1.1, P. 4-453 and Figure 4-91 of FEIR 563, all of Planning Area 5 (approx. 269 acres), portions of Planning Area 3 (approx. 175 acres), portions of Planning Area 7 (approximately 245 acres) and a portion of Planning Area 8 (approx. 40 acres) are classified Prime Farmlands. Note, however, that since the U.S. Department of Agriculture's

classification, Marshburn Detention Basin has been constructed, reducing the lands classified as Prime Farmland by approx. 39 acres to a total of 230 acres in Planning Area 5.

Of these Prime Farmlands, 166 acres (72 percent) would be retained in Planning Area 5, 131 acres (75 percent) would be retained in Planning Area 3, and 203 acres (83 percent) would be retained in Planning Area 7. All of the Prime Farmland in Planning Area 8 would be lost due to the ROFA and RPZ proposed for OCX. In total, of the 726 acres classified Prime Farmland (687 acres after construction of Marshburn Basin), approximately 500 acres would be retained by this alternative. Note that the construction of the Rockfield Drive extension in Planning Area 7, although not required for this alternative, would remove approximately seven acres of Prime Farm Land.

Figure 4-453 also shows that portions of Planning Area 7 (approximately 82 acres) and a portion of Planning Area 3 (approximately ten acres) are classified Farmland of Statewide Importance. Virtually all of this land is located in the Runway Obstacle Free Area (ROFA) or the Runway Protection Zone (RPZ) proposed for OCX. According to FAA Advisory Circular AC 150/5200-33, the FAA recommends that no agricultural activities be conducted in the ROFA and related zones to ensure safe, efficient aircraft operations. Therefore, the ROFA and RPZ for the Proposed Project and this alternative would result in the loss of approximately 67 acres of Farmland of Statewide Importance. In addition, the proposed location of the IRWD Aqueous Waste Treatment Plant in Planning Area 7 would remove another nine acres of these Farmlands for a total loss of approximately 76 acres.

In conclusion, the Nonaviation Revenue Support Area Alternative 1 would significantly reduce the loss of farmland compared to the Proposed Project. The alternative would, however, result in a significant loss of farmland compared to the No Project/No Activity Alternative.

In regard to Farmlands of Statewide Importance, the ASMP includes an alternative that would locate all of the ROFA and RPZ on the north side of the ~~AT&SF~~ Metrolink railroad in the unincorporated area. This alternative could reduce the loss of Farmlands of Statewide Importance from 76 acres to approximately 10 acres of loss, which would reduce the impacts to a level of insignificance.

Cultural/Institutional Uses

This alternative would reduce the Cultural/Institutional acreage by over 50 percent from the Proposed Project, which could potentially result in the site being unsuitable in size to accommodate the proposed branch university. However, this site would still be large enough to accommodate the remaining Cultural/Institutional uses proposed by the project (e.g., Sheriff's education center, etc.). Therefore, this alternative would be expected to have an adverse impact on accommodating a portion of the demand for a branch university in southern Orange County.

Feasibility

This alternative would reduce development costs for nonaviation uses, so economic feasibility is enhanced.

Conclusion

Under this alternative, the level of development at MCAS El Toro would be less intense than with the Proposed Project. This would result in slight differences in effects from the Proposed Project, for example, fewer trips and fewer jobs created. Most of the impacts would be similar to, or slightly less than, the impacts of the Proposed Project. The primary difference in effects is that more agricultural land would be preserved although the impacts would remain significant under this alternative. However, for many of the impact categories for which this alternative results in slightly less than the Proposed Project, the Proposed Project does not result in significant unmitigated impacts; thus implementation of this alternative would not reduce any significant impacts. For these reasons, this Draft EIR proposes to reject this alternative.

8.10.3 Nonaviation Revenue Support Area Alternative 2

In summary, this alternative was selected for analysis because it has the potential to avoid project impacts on Prime Agricultural Soils and lessen impacts on traffic and traffic related impact while still attaining the objectives of the project.

Under Nonaviation Area Alternative 2, nonaviation uses proposed are shown in Table 8.10-2 and Figure 8-13. Compared to the Proposed Project, this alternative is intended to reduce the project impacts on traffic (and traffic related impacts such as air quality and highway noise) and on Prime Farm Lands. Compared to the Proposed Project, this alternative would result in a net reduction in:

- a. Regional Park acreage
- b. Golf Course acreage
- c. Proposed County Wildlife Habitat area
- d. Business Park area
- e. Cultural/Institutional uses

This alternative would result in a net increase in farm lands compared to the Proposed Project. In addition, this alternative reduces the aircraft noise impacts on recreational uses by reducing the planned recreation areas in high noise impact areas.

The alternative would also reduce the development costs for Regional Park uses and the Cultural/Institutional uses and eliminate development costs for the Business Park, the

**Table 8.10-2
Nonaviation Revenue Support Area Alternative 2**

LAND USE	LU_CODE	ACRES
Agriculture	5-1a	102.76
Agriculture	3-1b	27.01
Agriculture	3-1c	13.03
Agriculture	3-1d	0.37
Agriculture	3-1e	119.94
Agriculture	7-1f	61.35
Agriculture	7-1g	6.24
Agriculture	7-1h	53.62
Agriculture	7-1i	99.81
Agriculture	7-1j	33.05
Agriculture Total		517.18
Park Uses	2-2	35.94
Park Uses Total		35.94
Golf Course (North)	2-3a	165.16
Golf Course (North)	2-3b	41.24
Golf Course (South)	3-3c	15.32
Golf Course (South)	3-3d	47.04
Golf Total		268.76
Open Space	3-4a	0.78
Open Space	3-4b	0.53
Open Space Total		1.31
Habitat Reserve	6-5a	970.45
Habitat Reserve	3-5b	20.64
Habitat Reserve Total		991.09
Restricted Open Space	8-6a	12.98
Restricted Open Space	8-6b	4.64
Restricted Open Space	8-6c	68.83
Restricted Open Space	8-6d	32.45
Restricted Open Space	8-6e	11.42
Restricted Open Space	8-6f	16.29
Restricted Open Space	7-6g	38.02
Restricted Open Space	7-6h	9.14
Restricted Open Space Total		193.78
Marshburn Retarding Basin	5-7	38.87
Retarding Basin Total		38.87
Airfield Total	8-8	1,120.03
Airfield Total		1,120.03
Parking	5-9a	63.65
Terminal and Parking	1-9b	481.10
Terminal and Parking Total		544.75
Airport Shuttle Rail Yard	4-10a	12.53
Airport Transportation Center	4-10b	9.34
Transportation Facility Total		21.86

LAND USE	LU_CODE	ACRES
Cargo (west)	4-11a	137.59
Cargo (east)	3-11b	56.08
Cargo Total		193.67
In-flight Catering	2-12a	17.07
Aviation/Industrial Related	2-12b	99.49
Control Tower	2-12c	4.00
FBO/Corporate Aviation	2-12d	54.28
ARFF	2-12e	4.00
Airport Maintenance	3-12f	25.71
Airline Maintenance	3-12g	46.41
Ground Service Equipment	4-12h	14.00
Fuel Storage	4-12i	14.30
Aviation Support	4-12j	5.45
Aviation Support Total		279.27
Vehicle Maintenance Yard	3-13a	57.40
Food Distribution Warehouse	3-13b	6.18
IRWD Reservoir and Pumping	3-13c	5.73
Fire Station	3-13d	1.20
California Air National Guard	3-13e	24.05
Homeless Service Providers	4-13f	28.29
Fire Station	4-13h	1.00
IRWD Facility	7-13g	9.00
Public Facilities Total		132.85
Wildlife Habitat Area	3-15i	17.57
Wildlife Habitat Area	3-15b	20.09
Wildlife Habitat Area	3-15c	42.96
Wildlife Habitat Area	3-15d	18.57
Wildlife Habitat Area	7-15e	14.15
Wildlife Habitat Area	7-15f	27.98
Wildlife Habitat Area Total		150.32
Cultural Institutional	2-16	40.10
Cultural Institutional Total		40.10
Roads and Easements		157.16
Roads and Easements Total		157.16
GRAND TOTAL		4,692.38
1- Planning Area		

Executive Golf Course, and the proposed Wildlife Habitat Area. The alternative would slightly increase revenues from farm land leases, reduce revenues from Cultural/Institutional and regional park uses, and eliminate revenue from the Business Park. In summary, this alternative would:

1. Delete the Business Park (87 acres), Executive Golf Course (98 acres), and County Wildlife Habitat Area (40 acres) in Planning Area 7 and retain the existing agricultural uses, to reduce the loss of existing farm lands by approximately 283 acres in Planning Area 7.
2. Relocate the Regulation Golf Course from the southerly portion of Planning Area 3 (thus retaining approximately 120 acres of farm lands in Parcel 3-1e) to the northerly portion of Planning Area 3 replacing (a) regional park uses and (b) Cultural/Institutional uses planned in the Proposed Project (formerly military housing areas). Relocation of the golf course would permit conversion of the existing (former military) golf course (a net area of 62.36 acres after reductions for proposed aviation and other uses) to the proposed Irvine Ranch Water District (IRWD) Aqueous Waste Treatment Plant site (9 acres) and to agricultural uses (approximately 53 acres). This agricultural area could accommodate the relocation of nursery uses from Planning Area 5 required by the proposed parking area in Parcel 5-9a. The proposed County Wildlife Habitat Area in Planning Area 3 (approximately 104 acres) would be eliminated and the existing agricultural uses would be retained.
3. Cultural/Institutional uses would be reduced from approximately 80 acres to approximately 8 acres in Planning Area 2, and 72 acres would be reclassified to golf course use for the Regulation Golf Course. Approximately 195 acres of regional park uses would be reclassified to golf course uses. The equestrian stable area in the Proposed Project would remain unchanged (approximately 36 acres).
4. Relocate the Vehicle Maintenance Yard (57.4 acres) and the State Department of Education Warehouse (6.18 acres) from Planning Area 5 to Planning Area 3. This change from the project plan would reduce the loss of farm lands by 64 acres in Planning Area 5.

8.10.4 Environmental Impacts of Nonaviation Revenue Support Area Alternative 2

Land Use

Compared to the Proposed Project, this alternative would result in a reduction in the lands planned for the Business Park, Golf, Regional Park-type uses, proposed County Wildlife Habitat Area, and Cultural/Institutional uses. This alternative would increase the amount of existing agricultural uses retained by the project from 139 acres to 738 acres, an increase of approximately 600 acres. Finally, this alternative would relocate the Regulation Golf

Course, the Vehicle Maintenance Yard, and the State Department of Education Warehouse uses compared to the Proposed Project. No changes are proposed to aviation uses, aviation support uses, or other public facilities (e.g., homeless providers, IRWD, OCTA rail yard, and ANG).

This alternative would reduce the Cultural/Institutional acreage by 90 percent, which would result in the site being unsuitable in size to accommodate the proposed branch university and virtually all the other Cultural/Institutional uses. However, this site would still be large enough to accommodate the small Cultural/Institutional uses.

General Plan Consistency

The adjustments to nonaviation revenue support use do not affect the need for General Plan Amendments compared with the Proposed Project.

Transportation and Circulation

This alternative would reduce the trips generated by the Proposed Project as follows:

LAND USE	CHANGE IN TRIP GENERATION:			
	AM PEAK	PM PEAK	TOTAL	% CHANGE
Business Park	-1,735	-1,566	-15,775	(-100%)
Cultural/Institutional	-796	-716	-7,956	(-90%)
Regional Park	-149	-179	-3732	(-81%)
Agricultural Uses	+6	+6	+1,200	(+736%)
Total	-2,674	-2,455	-26,263	(N/A)

In summary, this alternative would reduce the Proposed Project trip generation as follows:

PROJECT CASES:	TRIP GENERATION FOR OCX AREA:		
	AM PEAK	PM PEAK	TOTAL
Proposed Project:	11,498	12,796	176,123
Alternative:	8,824 (-23%)	10,341 (-19%)	150,222 (-15%)
Existing Conditions:	2,200	2,300	25,400

This alternative would reduce the peak hour trip generation by 23 percent in the morning peak hour and 19 percent in the afternoon peak hour, which is a significant reduction. This alternative could result in a measurable reduction in peak hour conditions east and south east of the OCX project area.

Elimination of the Business Park and the Executive Golf Course would have a measurable reduction in trips on Rockfield Drive, Alton Parkway, Bake Parkway, Barranca Parkway, and the I-5 Freeway ramps in the vicinity of the Business Park site. The relocation of the Vehicle Maintenance Yard and State Warehouse would reduce trips on Portola Parkway between Sand Canyon and the Foothill Tollroad and increase by an equal amount the trips on Irvine Boulevard between Sand Canyon and Bake Parkway. This increase would be

almost entirely offset by reductions in trip generation for Cultural/Institutional uses and regional park uses. The increase in agricultural trips and relocation of Regulation Golf Course trips would have insignificant effects.

The traffic impacts of the Proposed Project are reduced by mitigation measures to a level of insignificance. Therefore, this alternative would not result in a different conclusion regarding project impacts. However, this alternative would reduce the extent and costs of required mitigation for traffic impacts, and would reduce traffic impacts in congested areas to the east and south of the project site, especially in the Spectrum and Lake Forest areas.

Aviation Compatibility

Compared to the Proposed Project, the alternative would eliminate recreational uses (i.e., golf course areas) and proposed County Wildlife Habitat Areas within the Safety Zones for the Proposed Project and retain almost all of the existing agricultural uses located in these Zones. The ROFA and RPZ would remove small amounts of existing agricultural uses. In addition, this alternative would eliminate Regional Park-type uses within high aviation noise areas (i.e., 70+ CNEL).

Since Golf Courses, Regional Park-type uses, and proposed County Wildlife Habitat areas proposed in the Safety Zones and high aviation noise areas are considered compatible land uses, the Proposed Project would not result in open space uses being incompatible with aviation activities. Therefore, this alternative would not change the conclusions of the Proposed Project impact analysis.

Air Quality and Highway Noise

Compared to the Proposed Project, this alternative would reduce the highway traffic (mobile source) air quality emissions by about 15 percent, and total on-site generated project emissions by approximately 7 percent. Highway noise impacts in the project area would be reduced significantly compared to the project case on Rockfield Drive in and near the site, and to a lesser degree on Bake Parkway, Alton Parkway, and Barranca Parkway. Highway noise would be reduced on Portola Parkway near the project site to a less than significant level. However, highway noise would be increased on Irvine Boulevard in and near the project site to a less than significant level.

The local and regional air quality impacts of the Proposed Project are reduced by mitigation measures to a level of insignificance. Therefore, this alternative would not result in a different conclusion regarding project impacts. However, this alternative would measurably reduce the total project air quality emissions due to mobile sources, and would measurably reduce highway noise impacts in some areas near the project site.

Recreation

Compared to the Proposed Project, this alternative would eliminate the amount of active and passive types of recreational uses included in the proposed Regional Park area and in the Executive Golf Course. However, this alternative would retain the project proposals for Equestrian Stables (approximately 36 acres) and a Regulation Golf Course (238.5 acres), and increase farm land for an overall insignificant change in total open space. Therefore, this alternative would have approximately the same effects as the Proposed Project in providing open space in the rapidly urbanizing central and southern Orange County area. This alternative would preserve less open space, however, than would be preserved by the No Project/No Activity Alternative, but the alternative would provide a larger amount of active recreational uses (i.e., golf course) compared to the No Project case.

This alternative would result in a large reduction in regional park-type uses. The demand for active (e.g., ballfields) and passive (e.g., picnicking) regional park-type uses in the project area is significant, and recreational surveys for the project and studies by the County and nearby cities demonstrate a significant unmet need. This alternative would reduce or eliminate the opportunity to meet this demand. Therefore, this alternative would be inferior to the Proposed Project in meeting the demand for regional park-type recreational uses.

Natural Resources and Energy

This alternative would increase the amount of farm lands from approximately 139 acres under the Proposed Project to approximately 738 acres. Per Section 4.1.6 of the Draft EIR, the Department of Navy leased approximately 1,040 acres for agricultural uses at the OCX site, of which 726 acres have been classified as “Prime Farmland” and 92 acres have been classified “Farmland of Statewide Importance” by the U.S. Department of Agriculture, Natural Resources Conservation Service.

According to Section 4.11.1.1, P. 4-453 and Figure 4-91 of FEIR 563, all of Planning Area 5 (approximately 269 acres), portions of Planning Area 3 (approximately 175 acres), portions of Planning Area 7 (approximately 245 acres), and a portion of Planning Area 8 (approximately 40 acres) are classified Prime Farmlands. Note, however, that since the U.S. Department of Agriculture’s classification, Marshburn Detention Basin has been constructed, reducing the lands classified as Prime Farmland by approximately 39 acres to a total of 230 acres in Planning Area 5.

Of these Prime Farmlands, this alternative would retain in agricultural use 166 acres (72 percent) in Planning Area 5, 175 acres (100 percent) in Planning Area 3, and 245 acres (100 percent) in Planning Area 7. However, all of the Prime Farmland in Planning Area 8 (approximately 40 acres) would be lost due to conflicts with the ROFA and RPZ for OCX.

In total, of the 726 acres classified Prime Farmland (689 acres after construction of Marshburn Basin), 586 acres of Prime Farm Land would be retained by this alternative.

Note that the extension of Rockfield Drive, although not required for this land use alternative, would remove approximately seven acres of agricultural lands in Planning Area 7 when constructed to implement the Master Plan of Arterial Highways.

Figure 4-453 also shows that portions of Planning Area 7 (approximately 82 acres) and a portion of Planning Area 3 (approximately ten acres) are classified Farmland of Statewide Importance. Virtually all of this land is located in the Runway Obstacle Free Area (ROFA) or the Runway Protection Zone (RPZ) proposed for OCX. According to FAA Advisory Circular AC 150/5200-33, the FAA recommends that no agricultural activities be conducted in the ROFA and related zones to ensure safe, efficient aircraft operations. Therefore, the ROFA and RPZ for the Proposed Project and this alternative would result in the loss of approximately 67 acres of Farmland of Statewide Importance.

In conclusion, the Nonaviation Revenue Support Area Alternative 2 significantly reduce the loss of farmland compared to the Proposed Project. The alternative would, however, result in a significant loss of farm land compared to the No Project/No Activity Alternative.

In regard to Farmlands of Statewide Importance, the ASMP includes an alternative which would locate all of the ROFA and RPZ on the north side of the ~~AT&SF~~ Metrolink railroad in the unincorporated area. This alternative could reduce the loss of Farmlands of Statewide Importance from 67 acres to approximately 10 acres of loss, which could reduce the impacts to a level of insignificance.

Final EIR 563/FSA EIR 563 concluded that the CRP would not have a significant adverse impact on prime farm lands. Therefore, this alternative would not result in a different conclusion regarding project impacts.

Feasibility

Under this alternative, the development costs for nonaviation development are reduced, which increases the feasibility of the alternative.

Conclusions

Under this alternative, the level of development at MCAS El Toro would be less intense than with the Proposed Project. This would result in slight differences in effects from the Proposed Project, for example, fewer trips and fewer jobs created. Most of the impacts would be similar to, or slightly less than, the impacts of the Proposed Project. The primary difference in effects is that more agricultural land would be preserved although the impacts would remain significant under this alternative. However, for many of the impact categories for which this alternative results in slightly less than the Proposed Project, the Proposed Project does not result in significant unmitigated impacts; thus implementation of this alternative would not reduce any significant impacts. The Draft EIR proposes to reject this alternative because it eliminates active recreational uses such as ballfields, which are needed to meet demand in South County.

8.11 ALTERNATIVE K: JWA – STATUS QUO AVIATION ROLES; ALTERNATIVE AIRPORT SITE– FULL DOMESTIC TO FULL INTERNATIONAL; NO AVIATION REUSE AT MCAS EL TORO

8.11.1 CEQA Requirements for Alternative Sites

Section 15126.6 (Consideration and Discussion of Alternatives to the Proposed Project) of the CEQA Guidelines specifically describes the types of alternatives to a Proposed Project that should be evaluated in an EIR. Section 15126.6(f)(2) provides the following guidance on identifying and considering alternative sites for Proposed Projects:

- (A) Key question. The key question 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.*
- (B) None feasible. If the lead agency concludes that no feasible alternative locations exist, it must disclose the reasons for this conclusion, and should include the reasons in the EIR. For example, there may be no feasible alternative locations for a geothermal plant or mining project, which must be in close proximity to natural resources at a given location.*
- (C) Limited new analysis required. Where a previous document has sufficiently analyzed a range of reasonable alternative locations and environmental impacts for projects with the same basic purpose, the lead agency should review the previous document. The EIR may rely on the previous document to help it assess the feasibility of potential project alternatives to the extent the circumstances remain substantially the same as they relate to the alternative.*

8.11.2 Previous Studies of Alternative Airport Sites

Over the last approximately 30 years, a number of studies have been conducted regarding the siting of an airport in addition to JWA to serve all or some of the anticipated increase in demand for air travel in Orange County. These prior studies considered a wide range of possible sites and evaluated these candidate locations based on a number of characteristics, including suitability for aviation uses, ground transportation, physical site constraints and/or environmental considerations. Given the large number of sites that have been considered for an additional airport in Orange County, a detailed description of the site evaluation and history of environmental documentation is contained in Appendix J. A table summarizing the potential environmental impacts and other constraints of each alternative site (Table J-A) is included in Appendix J. A brief summary of the prior studies follows.

EIR No. 102, Orange County Airport Alternative Futures (DMJM 1978), identified several alternative airport sites to assist JWA in serving aviation demand in Orange County. EIR No. 102 did not evaluate either the potential environmental impacts of these alternative airport sites or the ability of these sites to accommodate a civilian airport. The following eight alternative airport sites were identified in EIR No. 102, as discussed in detail in Appendix J:

- (i) Mesa de Colorado (Rancho California)
- (ii) Ontario International Airport
- (iii) Naval Air Station (NAS) Los Alamitos
- (iv) Camp Pendleton
- (v) Chino Hills
- (vi) Long Beach Airport
- (vii) Bell Canyon

EIR No. 508 (County of Orange, 1985), prepared in support of the JWA Master Plan and Santa Ana Heights Land Use Compatibility Program, evaluated a number of alternative sites for airports which would have accommodated some or all of the expanded flight activity planned for JWA. These sites, which are discussed in detail in Appendix J, are:

- i) Camp Pendleton
- ii) Armed Forces Reserve Center (AFRC), Los Alamitos
- iii) Ontario and Los Angeles International Airports and Long Beach Airport (Combined Alternative)
- iv) Santiago Canyon
- v) San Pedro Bay/Long Beach Harbor
- vi) Chino Hills

A relatively recent study related to alternative airport sites was the Airport Site Consensus Team Final Report (The Planning Center 1990). That study identified a wide range of possible sites and considered potential advantages and disadvantages of each site. The report evaluated 20 sites and identified four that were considered potentially able to serve Orange County air service demand. These sites, which are discussed in detail in Appendix J, are:

- (i) Potrero Los Piños
- (ii) South Camp Pendleton
- (iii) Cristianitos Canyon
- (iv) March Air Force Base (AFB)

On June 12, 1990, the Orange County Board of Supervisors approved a motion to find that none of the four sites recommended by the Airport Site Coalition Consensus Team were appropriate for master planning at that time. On December 4, 1990, the Board of Supervisors voted to support planning efforts for a commercial airport at George Air Force Base, including a rail linkage.

Final EIR No. 563 (P&D 1996), prepared in support of the reuse of MCAS El Toro, considered the four possible alternative sites identified in the 1990 Consensus Report. Technical Report 6 to EIR No. 563, Alternatives Definition Report for the MCAS El Toro Master Development Program, identified three possible alternative sites for an airport to serve Orange County demand: the AFRC Los Alamitos, Cristianitos Canyon and Camp Pendleton. The sites considered in EIR No. 563 and Technical Report 6 are discussed in detail in Appendix J. FEIR No. 563 concluded that none of the sites was feasible for the CRP project, as explained in Appendix J.

8.11.3 Alternative Sites Evaluated for EIR No. 573

As part of EIR No. 573, no additional feasible sites were found in Orange County, and none that would satisfy the project objectives or that would avoid or substantially lessen the potential adverse impacts of the Proposed Project. Therefore, pursuant to CEQA Guidelines Section 15126.6(f), there are no additional sites to be considered for the Proposed Project. For further information, see Section 8.14.1.5, New Airport Site Only.

In addition, to the extent that increased use of other existing airports in the region to accommodate Orange County demand which would otherwise be served in Orange County under the Proposed Project could be considered an “off-site” alternative, the environmental effects of such a scenario are summarized, to the extent practicable, in the No Project/No Activity Alternative (see particularly the relevant discussion in Section 8.2.4 of this EIR).

8.12 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

8.12.1 Introduction

Section 15126.6 of the State CEQA Guidelines requires an analysis of a range of reasonable alternatives to the Proposed Project. In particular, subsections (1) and (e)(2) in relevant part state:

(1) “The specific alternative of “no project” shall also be evaluated along with its impact: (2) If the environmentally superior alternative is the “no project” alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.”

Section 8.2 summarizes the impacts of the No Project/No Activity Alternative in comparison to the Proposed Project in detail.

8.12.2 No Project/No Activity Impacts Summary

As analyzed in Section 8.2 and Table 8.13-1, the No Project/No Activity Alternative would not be the environmentally superior alternative because it would have greater adverse environmental impacts than the Proposed Project, in summary, as follows:

- The aviation alternatives, the ETRPA Nonaviation Alternative, and the project would generate less regional VMT.
- The aviation alternatives (except Alternative F) and the project would generate less regional air quality emissions than the No Project/No Activity Alternative.
- While the No Project/No Activity Alternative would avoid increased aviation operations and sleep disturbance impacts near the El Toro site, this alternative would increase operations and sleep disturbances at JWA and regional airports where the impacts would be worse due to the large number of noise sensitive uses within the 65 CNEL at regional airports.

For these reasons, the No Project/No Activity Alternative would not be the environmentally superior alternative.

8.12.3 Environmentally Superior Alternative

Based upon the comparisons in Table 8.13-1, Alternative A, because it creates less noise, transportation, local air quality emissions, toxic air contaminants due to aircraft, natural resources and energy impacts than the Proposed Project, although creating greater regional VMT and air quality impacts, is the environmentally superior alternative. For the nonaviation revenue support land uses. Alternative LU-2 is the environmentally superior alternative because it substantially reduces the loss of agricultural soils, trip generation, and local air quality emissions while retaining substantially the benefits of proposed recreation uses and public facilities.

8.13 COMPARISON OF THE ENVIRONMENTAL IMPACTS OF THE PROJECT ALTERNATIVES

A comparison of the key impacts of each of the alternatives analyzed in this EIR is provided in Table 8.13-1.

**Table 8.13-1
Comparison of Key Impacts of Alternatives Relative to the Proposed Project**

Impacts	Project*	A	C	F	G	J	Land Use 1	Land Use 2	No Project/ No Activity	Wildlands Ranch	ETRPA Non-Aviation
Land Use	I	=	=	S+	S+	S+	=	=	S+	S+	=
G.P. Consistency	I	=	=	S+	S+	S+	=	=	S+	S+	=
Transportation	I	-	=	S+	S+	=	-	-	-	=	S+
Noise	S	S-	=	S-	S+	S+	S-	=	+	S+	S+
Air Quality, Local	I**	-	=	S+	S+	=	-	-	-	-	S+
Air Quality, Regional	I	S+	=	S+	S+	=	=	=	S+	S+	S+
Air Quality, Toxics	S	S-	=	S	S	=	=	=	-	S-	-
Topography	I	=	=	=	S+	=	=	=	=	=	=
Soils, Geology	I	=	=	=	=	=	=	=	=	=	=
Hydrology	I	=	=	=	=	=	=	=	S+	=	=
Biology	I	=	=	+	+	=	+	=	+	=	+
Public Services	I	=	=	=	=	=	=	=	+	=	=
Nat. Resources/Energy	S	S-	=	S+	S+	=	-	-	-	S+	S+
Aesthetics	I	=	=	-	S+	=	-	-	S	=	=
Cultural Resources	I	=	=	=	=	=	=	=	=	=	=
Recreation	S	=	=	-	S	=	+	+	S	=	-
Health, Safety	I	=	=	=	=	=	=	=	=	=	=
Hazardous Waste	I	=	=	=	=	=	=	=	S	=	S
Socioeconomics	S	=	=	+	+	=	=	=	+	=	S
Risk of Upset	I	=	=	+	+	=	=	=	-	=	-
Cumulative	S	=	=	+	+	=	=	=	+	=	+

* In those instances in which the comparison of the alternative to the Proposed Project is materially affected by the phasing, a footnote has been added to identify those differences.

~~** Significant local air quality impacts will not occur until sometime after 2010. These impacts will be mitigated to a level below the level of significance.~~

- Legend:
- I = Impacts are insignificant after mitigation.
 - S = Impacts are significant after mitigation.
 - +
 - = Impacts are substantially greater than the Proposed Project.
 - = = Impacts are substantially less than the Proposed Project.
 - = = Impacts are similar to the Proposed Project
 - NA = Not Applicable.

8.14 ALTERNATIVES CONSIDERED BUT REJECTED

This section discusses alternatives to the Proposed Project that have been considered but rejected from further consideration. The alternatives that have not been carried forward for further consideration were eliminated, generally, if screening analyses indicated that the scenario:

- (i) had a serious operational or environmental deficiency and/or was clearly inferior to one or more scenarios retained for further study;
- (ii) was infeasible or would have failed to meet significant and substantial goals and criteria, as established in the Community Reuse Plan and further refined for the ASMP;
- (iii) did not offer significant advantages over another scenario retained for further study, or;
- (iv) was closely bracketed by two other scenarios that were carried forward for further consideration, or was a closely-related variant of a scenario that had been carried forward.

The following subsections describe these alternatives and the specific reasons for eliminating them from further consideration in this EIR.

8.14.1 One-Airport Scenarios Not Carried Forward

8.14.1.1 JWA Only – Status Quo with Runway Extension

Under this alternative, the role of JWA would remain unchanged, but the main runway would be extended 1,100 feet to the north for a total runway length of 6,800 feet. The northerly extension would allow some commercial aircraft operating at JWA to have greater takeoff weights, enabling them to travel farther and/or carry more passengers. It would also provide an added margin of safety. In order to accommodate a significant amount of commercial passenger demand beyond 8.4 MAP, general aviation would be eliminated at JWA and the short runway closed. This alternative was eliminated from further consideration, because it was concluded that this scenario offered no significant advantage over Alternative F, while having the same failures to achieve project objectives as set forth in Alternative F in Section 8.4.3.

8.14.1.2 JWA Only – Enhanced Service

Under this alternative, the role of JWA would include additional long haul service. The improvements needed, the elimination of general aviation, and the conclusions for this alternative are the same as for Alternative 8.14.1.1, above.

8.14.1.3 JWA Only – Enhanced Service with Reduced General Aviation

Under this alternative, the role of JWA would be expanded to include full long-haul service. The main runway would be extended 1,100 feet to the north for a total runway length of 6,800 feet. This alternative was eliminated from further consideration, because it was concluded that this scenario offered no significant advantage over Alternative G, while failing to attain the same project objectives as discussed in Section 8.5.3.

8.14.1.4 MCAS El Toro Only

Ten alternatives were evaluated which involved closing JWA to all aircraft operations and developing MCAS El Toro to varying degrees of passenger and other service. None of the single-airport scenarios that would close JWA has been considered further, because the general aviation facilities at JWA would become unavailable to Orange County general aviation users or would need to be replaced at MCAS El Toro. If all JWA general aviation activity were relocated to MCAS El Toro, it would significantly affect the ability of MCAS El Toro to accommodate growth in commercial air passenger and cargo needs. The project objectives to follow the County's General Plan and board direction to utilize a two airport system would also not be attained.

8.14.1.5 New Airport Site Only

Under this alternative, a new airport site would have been developed to serve Orange County. JWA would be closed to all aircraft operations, and MCAS El Toro would have been reused for nonaviation purposes. Three potential new airport sites were identified for this analysis based on prior airport site selection studies in Orange County (AFRC Los Alamitos and a Cristianitos Canyon site in Orange County, and Camp Pendleton in San Diego County). No determination has been made here of the suitability of any of the three sites for a commercial airport with full domestic to full international service (see Section 8.12).

This scenario has not been carried forward because a guideline established by the Board of Supervisors in adopting the CRP was that a system of two airports, including commercial service at JWA, is favored. Alternative K consists of a two-airport system, with commercial service at JWA and a new commercial airport site serving Orange County. Furthermore, there is considerable uncertainty and speculation regarding the feasibility of both of the Orange County sites suggested. With the Camp Pendleton site about ten miles from the

Orange County border, it would not be a suitable replacement for JWA. The County has no access to the ownership of the Pendleton and Los Alamitos sites, and they remain under military ownership and control. There are no plans pending to close either of those bases. As set forth in Section 11.3.3.3 on page 11-56 of EIR No. 563, the Cristianitos Canyon site was rejected because it would be only a medium haul facility (maximum runway length 6,800 feet), is within the ten mile Emergency Planning Zone for the San Onofre Nuclear Power Plant, and it would result in greater environmental impacts than the Community Reuse Plan. See also the discussion in Section 8.11, Appendix J to this EIR, and the studies referenced in Appendix J.

8.14.2 Unlinked Two-Airport Scenarios Not Carried Forward

8.14.2.1 Alternative D

Under this alternative, MCAS El Toro would be developed to provide full domestic and international passenger and cargo service, and general aviation service, as in the Proposed Project. However, JWA would serve only general aviation. No major facility improvements would be needed at JWA. Runway improvements at MCAS El Toro would be the same as the Proposed Project and Alternative C. Although this alternative was the closest refined alternative to CRP Alternative A, this alternative was rejected because it does not meet the project objective of a two airport system, and because it causes greater environmental impacts than the Proposed Project.

8.14.2.2 Alternative H: JWA - Status Quo; MCAS El Toro - Full Domestic with 10 MAP Limit

The airport roles and airfield improvements for this alternative would be the same as for Alternative A, except that MCAS El Toro would be constrained to 10 MAP. The limited service at OCX would result in twice as many passengers being served at JWA in 2020 compared with the Proposed Project (10.8 MAP compared with 5.4 MAP). This alternative has been rejected because it does not meet the project objectives. Less than two-thirds of the County's air passenger service demand would be served by Alternative H. The regional air quality benefits of serving nearly all the demand in Orange County would be lost. Noise impacts around JWA would increase. Figure 8-9 depicts Alternative H.

8.14.2.3 Alternative I: JWA - Status Quo; MCAS El Toro - Full Domestic with 15 MAP Limit

Aviation Uses

The airport roles and airfield improvements for this alternative would be the same as for Alternative A, except that MCAS El Toro would be constrained to 15 MAP. Because of this

limitation, JWA would serve slightly more passengers in 2020 than under the Proposed Project, 7 MAP compared with 5.4 MAP. JWA currently (1998) serves approximately 7.5 MAP. This alternative has been rejected because it does not meet the project objectives. Alternative I would serve less than two-thirds of the County's aviation passenger demand, will reduce the potential economic benefits of the project, would not take full advantage of the noise buffer around El Toro, and would not reduce regional air quality impacts to the extent feasible under the Proposed Project.

8.14.2.4 JWA -- Status Quo/MCAS El Toro -- General Aviation and Cargo

This scenario was the Community Reuse Plan (CRP) Alternative B. JWA would have retained its existing role, while MCAS El Toro would have been devoted to general aviation and cargo use only. The airfield at MCAS El Toro would consist of two closely-spaced parallel runways, the existing Runway 16R-34L and a new 4,200-foot runway with a runway centerline separation of 700 feet. The CRP and associated Environmental Impact Report No. 563 concluded that the CRP Alternative A was superior to the CRP Alternative B. For the reasons stated in EIR No. 563, this scenario was not carried forward for further study.

8.14.2.5 JWA -- Status Quo/MCAS El Toro -- Limited International

Under this alternative, JWA would have continued its existing role. MCAS El Toro would have provided limited international service, including limited service to overseas destinations in addition to service to North and Central America. The runway configuration at JWA would have been unchanged. MCAS El Toro would have had the same runway improvements as Alternative A. The role of MCAS El Toro in this scenario would have been between that of Alternatives A (MCAS El Toro full domestic, including international to North and Central America) and B (MCAS El Toro full international). The effects of this alternative are adequately tested by Alternatives A and B, so it was not be carried forward for further analysis.

8.14.2.6 JWA (North Flow) -- Status Quo/MCAS El Toro -- Full International with Wide Parallel Runways

This alternative is similar to Alternative J, except JWA would have operated in predominantly north-flow (aircraft landing and departing to the north), rather than the existing south-flow operations. North flow operations at JWA have been examined in the airspace analysis of Alternative J. Therefore, further study under a separate scenario was not needed.

8.14.2.7 JWA -- Status Quo/MCAS El Toro -- Full International with Realigned Runways 13/31

Under this alternative, JWA would have operated as status quo, and one or more of the runways at MCAS El Toro would have been realigned to a northwest-southeast (Runway 13/31) direction. The purpose of the realignment would have been to minimize the presence of high terrain in the approach and departure paths. This scenario would be similar to Alternative B, except for the MCAS El Toro runway configuration. The realignment of runways would not take full advantage of the non-residential areas within the County Policy Implementation Line (PIL) and, in fact, exposes new noise sensitive areas to aircraft noise impacts. For this reason, a separate alternative with realigned runways was not carried forward.

8.14.2.8 JWA -- Expanded Role/MCAS El Toro -- General Aviation and Cargo

Two alternatives would have expanded passenger service roles for JWA (ranging from full domestic to limited international), with only general aviation and cargo at MCAS El Toro. Runways at JWA would have been extended to 6,800 to 8,000 feet, while MCAS El Toro would have had the same runway two-runway configuration discussed previously. In a two-airport system with MCAS El Toro, long-haul and international service is more suited to MCAS El Toro due to its longer runways and ample space for the necessary terminal facilities. Runways of 6,800 to 8,000 feet would not efficiently provide full domestic and limited international service, respectively at JWA. The project objectives to serve Orange County's aviation demand and take advantage of economic and land use opportunities prescribed by the availability of El Toro would not be met. Thus, these scenarios were not considered further.

8.14.2.9 JWA -- Expanded Cargo or Passenger Roles/MCAS El Toro -- Short- and Medium-Haul

Three alternatives would have expanded the role of JWA (either all-cargo service or full domestic or limited international passenger service), while MCAS El Toro would have assumed JWA's current role. These alternatives all would have forced JWA to assume a role that requires longer runways and more space than presently exists at the airport. Although, the main runway at JWA would have been extended from 6,800 to 8,000 feet, it would not have adequately accommodated the roles envisioned in these alternatives. On the other hand, the long runways at MCAS El Toro would have been underutilized by the short- and medium-haul role there. Alternatives with JWA fulfilling the primarily short- and medium-haul role and MCAS El Toro serving longer flights (such as Alternatives A, B, H, I and J) provide a better balance considering existing facilities and available space at the two airports. The studied alternatives take better advantage of the economic and land use

opportunities with El Toro to meet the project objectives to serve Orange County's aviation demand. Therefore, these three scenarios were not carried forward for further study.

8.14.2.10 JWA -- General Aviation and Cargo/MCAS El Toro -- Long-Haul or Limited International

Two alternatives envisioned JWA with general aviation and all-cargo service, and MCAS El Toro with long-haul to limited international passenger service. The main runway at JWA would have been extended to 6,800 feet. MCAS El Toro would have had intersecting pairs of close parallel runways. The 6,800-foot runway length at JWA would not have adequately accommodated expanded all-cargo service. Furthermore, there are no facilities and little space to support an all-cargo role there. The longer runways at MCAS El Toro make that airport more suited to the all-cargo role. Thus, this alternative fails to meet the project objectives to take advantage of economic and land use opportunities at El Toro to meet Orange County's aviation demand.

8.14.2.11 JWA -- General Aviation and Short-Haul/MCAS El Toro -- Limited or Full International

Here, JWA would have had a general aviation and short-haul role, while MCAS El Toro would have provided limited to full international passenger service. The runway configuration at JWA would have remained unchanged. MCAS El Toro would have had intersecting pairs of close parallel runways. These alternatives are very similar to Alternative B, the primary difference being medium-haul service at JWA in Alternative B. Demand forecasts have shown that with short- and medium haul service at JWA it would attract fewer passengers with Alternatives A and B than served today. Therefore, it is more appropriate to consider medium-haul service at JWA, as in Alternatives A and B. Moreover, Alternative C tests the general aviation and short-haul role at JWA. For these reasons, these two scenarios were not carried forward.

8.14.2.12 JWA -- General Aviation/MCAS El Toro -- Full Domestic

In this scenario, JWA would have served only general aviation, while MCAS El Toro would have had a full domestic role. This scenario would be similar to Alternative D, except MCAS El Toro would not provide international service. It is concluded that Alternative D will adequately test the limits of effects under this scenario, and therefore this scenario was eliminated from further consideration.

8.14.2.13 JWA -- General Aviation/MCAS El Toro -- Full International

This alternative is CRP Alternative A: general aviation at JWA and all-cargo and full international passenger service at MCAS El Toro. Under this alternative, JWA would have retained its existing runway configuration. MCAS El Toro would have had the same airfield configuration as Alternative A. The more refined and detailed Alternative D would have had the same roles as this alternative, but would have had extended runways at MCAS El Toro (within the existing MCAS El Toro property). The longer runways at MCAS El Toro would have provided the greater takeoff length needed for intercontinental flights. This scenario does not appear to have a significant advantage over Alternative D, and thus was not carried forward for further study in its original form. For the reasons stated in Section 8.14.2.1, the CRP has evolved in its more refined form, and with Board direction for a two airport system, into the Proposed Project, Alternative B.

8.14.2.14 General Aviation/MCAS El Toro -- Full International with Parallel Runways Separated by 2,500 Feet

This alternative would have been similar to Alternative J, but with a narrower runway separation to reduce impacts to SR133. The 3,000-foot separation of Alternative J could potentially permit simultaneous landings or departures on the two runways during IFR conditions. While a separation of 2,500 feet allows a simultaneous departure and arrival, it does not allow simultaneous arrivals or departures. Furthermore, the area between the runways for terminal development would be smaller than desirable for terminal development. This scenario offers no significant advantage over Alternative J, and was not carried forward for further consideration.

8.14.3 Linked Two-Airport Scenarios Not Carried Forward

8.14.3.1 JWA – Short- to Medium-Haul/MCAS El Toro – Long-Haul to Full International

Alternative C examines a linked two-airport system with short-haul service at JWA and medium-haul to full international service at MCAS El Toro. This alternative is a variation of that concept, whereby JWA would assume a greater role in the split of activity. Demand forecast studies have shown that JWA would serve 10.1 MAP by 2020 with short-haul service only (Alternative C). Because of the lack of terminal capacity beyond the 10 MAP range at JWA, and because the longer runways at MCAS El Toro would be more suited to the longer-haul operations, this scenario would offer no significant advantage over Alternative C, in the context of project objectives to take advantage of economic and land use opportunities at El Toro to serve Orange County's aviation demand. Further, the expense of the people mover system connecting the two airports is infeasible.

8.14.3.2 JWA – Full Domestic/MCAS El Toro – International Only

The reasons for not carrying forward this alternative are similar to those for the preceding alternative. In this case, however, the full domestic role is significantly less suitable for JWA than the short-haul role of Alternative C, because of the limited capability to extend the main runway within airport property. Furthermore, the split of activity between the two airports in this alternative would place the majority of passengers at JWA, which does not have the space on-airport to accommodate it. The scenario would also require a very large number of passengers to connect between the two airports on the people mover system, the cost of which is infeasible.

9.0 INVENTORY OF MITIGATION MEASURES AND STANDARD CONDITIONS

9.1 INTRODUCTION

Public Resources Code (PRC) Section 21081.6 requires state and local agencies to adopt programs for the monitoring and reporting of the implementation of mitigation measures addressing the significant adverse environmental impacts of projects agencies approve subject to the California Environmental Quality Act (CEQA). As part of this Final Environmental Impact Report (EIR), the County Board of Supervisors will adopt a Mitigation Monitoring Program (MMP), consistent with the requirements of PRC Section 21081.6 and the State CEQA Guidelines. The MMP will be used by the County of Orange for monitoring the implementation of the mitigation measures applicable to the selected reuse alternative.

The mitigation measures identified earlier in Sections 4.1 to 4.18 are listed in this section, by environmental parameter. These measures may be refined or deleted, or new measures added, by the Board of Supervisors in the Final EIR and the MMP.

9.1.1 Standard Conditions of Approval

The Proposed Project includes a number of County of Orange Standard Conditions of Approval (COAs) (see listing at end of chapter). These COAs, listed in Appendix L, serve to implement various County regulations and policies, and to provide protection to the environment. These COAs are part of the Proposed Project and, as a result, are themselves project features which can avoid or substantially reduce potential adverse impacts of the Proposed Project on the environment. The County will ensure that each COA incorporated in the Proposed Project is properly implemented as an integral part of the land use review compliance process.

9.2 MITIGATION RELATED TO LAND USE

9.2.1 Final EIR No. 563 Mitigation Measures

The findings for EIR No. 563 included three land use mitigation measures concerning subsequent amendments to the Orange County General Plan and the need for surrounding cities to consider adopting proposed mitigation. These mitigation measures are as follows:

- LU-1 Subsequent to the adoption of the MCAS El Toro Community Reuse Plan and concurrent with the preparation of an airport master plan or other development plans for the MCAS El Toro site, the County of Orange shall prepare amendments to the Orange County General Plan for consideration by the Board of Supervisors to ensure consistency between the adopted Community Reuse Plan and the Orange County General Plan. These amendments would be subject to the discretion of the Board of Supervisors. Further, the Board of Supervisors shall consider zone changes to allow the variety of uses

under the Reuse Plan. These zone changes will be considered at subsequent stages of the planning process, when appropriate, such as at the Master Plan level.

Relationship to EIR No. 573. General Plan amendments are proposed as part of the project. No zone changes are required for the Proposed Project due to the County's exemption from its own zoning, enacted after EIR No. 563. Thus, LU-1 is still applicable and will be implemented upon approval of the Proposed Project.

The County of Orange does not have land use authority in adjacent jurisdictions; therefore, the County included Measures LU-2 and LU-3 for consideration by the adjacent jurisdictions.

LU-2 The County of Orange shall coordinate any General Plan Amendments, when deemed necessary, with adjacent jurisdictions and adjacent landowners. The person responsible for this coordination shall be the County of Orange Director of Planning and Development Services or his designee.

LU-3 Surrounding cities should also consider specific impacts resulting from the proposed project, and adopt proposed mitigation, as feasible, in accordance with their local land use jurisdiction.

Relationship to EIR No. 573. Mitigation Measures LU-2 and LU-3 are within the responsibility and jurisdiction of another public agency, and not the County of Orange. See CEQA Guideline Section 15091(a)(2). Mitigation Measures LU-2 and LU-3 remain applicable to the Proposed Project.

9.2.2 Additional Precautionary Mitigation Measures

LU-4 Prior to the execution of leases, the County will review compatibility with adjacent and nearby uses and include requirements that minimize off-site impacts. These additional requirements will include compliance with all hazardous waste disposal protocols, the provision of a solid perimeter screen wall or fence, hoods for light fixtures to direct rays on site, and other site improvements or measures determined to be necessary to protect nearby property owners and lessees.

LU-5 Prior to execution of leases for agricultural uses, the County will review compatibility with adjacent nearby uses, and include the following requirements where appropriate:

- Restricting the agriculture use to row crops;
- Prohibiting livestock;
- Requiring low volume watering, as applicable;
- Containing runoff on site or directing it to adequately sized public storm sewers;
- Prohibiting aerial spraying of pesticides;
- Requiring the application of integrated pest management practices;

- Requiring watering before and after any activities that disturb soil to reduce dust emissions;
- Conducting soil moisture monitoring;
- Maintaining farm equipment in good operating condition;
- Requiring the use of mulch, cover crops, crop residue management, surface roughening, minimum tillage, or other methods to control dust when the land is fallow;
- Requiring the use of gravel or other surface material on highly traveled farm roads to reduce dust emissions; and
- Restricting vehicle speeds and public access to unpaved farm roads.

LU-6 The County will use its best efforts to ensure that nearby cities adopt and/or maintain existing restrictions on undesirable land uses or developments.

9.3 MITIGATION RELATED TO GENERAL PLAN CONSISTENCY

9.3.1 Final EIR No. 563 Mitigation Measures

LU-1 Subsequent to the adoption of the MCAS El Toro Community Reuse Plan and concurrent with the preparation of an airport master plan or other development plans for the MCAS El Toro site, the County of Orange shall prepare amendments to the Orange County General Plan for consideration by the Board of Supervisors to ensure consistency between the adopted Community Reuse Plan and the Orange County General Plan. These amendments would be subject to the discretion of the Board of Supervisors. Further, the Board of Supervisors shall consider zone changes to allow the variety of uses under the Reuse Plan. These zone changes will be considered at subsequent stages of the planning process, when appropriate, such as at the Master Plan level.

Relationship to EIR No. 573. The Proposed Project includes the General Plan Amendment. There is no longer a need for a zone change due to the County's exemption from its Zoning Code. Thus, LU-1 is still applicable and will be implemented upon approval of the Proposed Project.

LU-2 The County of Orange shall coordinate any General Plan Amendments, when deemed necessary, with adjacent jurisdictions and adjacent landowners. The person responsible for this coordination shall be the County of Orange Director of Planning and Development Services or his designee.

LU-3 Surrounding cities should also consider specific impacts resulting from the Proposed Project, and adopt proposed mitigation, as feasible, in accordance with their local land use jurisdiction.

Relationship to EIR No. 573. Mitigation Measures LU-2 and LU-3 are within the responsibility and jurisdiction of another public agency, and not the County of Orange. See CEQA Guidelines Section 15091(a)(2). Mitigation Measures LU-2 and LU-3 remain applicable to the Proposed Project.

9.3.2 Additional Mitigation Measures¹

- GPC-1 The County of Orange will submit the Board of Supervisors approved Airport System Master Plan (ASMP) to the Airport Land Use Commission (ALUC) within 30 days of Board approval of the ASMP. The County will use its best efforts to obtain ALUC approval of the ASMP as the 20 year plan for both airports, and ALUC adoption of necessary amendments to the AELUP.
- GPC-2 Prior to any landowner/developer application for a proposed zone change within the Proposed Project's 65 dB CNEL contour, the County of Orange shall negotiate with affected landowners to reallocate land uses, densities/intensities, development standards, and development allocations/forecasts to be compatible with the 65 dB CNEL contours.
- GPC-3 The City of Irvine can and should amend its General Plan to reflect the Proposed El Toro Project, including the General Plan designations for the portion of the site in the City of Irvine but under the jurisdiction of the LRA (Proposed Project Planning Area 7), and changes to the General Plan designations in the City's Sphere of Influence where inconsistent with the Proposed Project CNEL contours.
- GPC-4 Subsequent to adoption of the ASMP, the County shall use its best efforts to obtain SCAQMD's adoption of an updated AQMP, which replaces the obsolete military emissions budget for El Toro with an emissions budget based on SCAG's 2001 RTP as it relates to the Proposed Project.

Note: Pursuant to CEQA Guidelines Section 15091 (a)(2), ~~this~~ these measures are ~~is~~ within the responsibility and jurisdiction of another public agency, and not the County of Orange.

9.4 MITIGATION RELATED TO TRANSPORTATION AND CIRCULATION

9.4.1 Final EIR No. 563 and EIR No. 563 Supplemental Analysis Mitigation Measures

- T-1 Before the County Board of Supervisors adopts an amendment to the Land Use Element or Transportation Element of the General Plan related to implementation of the Community Reuse Plan, or approves an airport master plan for an airport on the MCAS

¹ Land use compatibility mitigation measures in Section 4.1 of this EIR are designed with "LU;" therefore, the General Plan Consistency mitigation measures are designated "GPC" in this EIR.

El Toro site, whichever comes first, the specific levels of capacity augmentation that would be applicable to the study area circulation system and other infrastructure will be identified by the Director of the Public Facilities and Resources Department in consultation with other responsible agencies for the selected reuse alternative, based on the best available socioeconomic data (i.e., OCP-96).

Relationship to DEIR No. 573: The methodology and findings of this DEIR No. 573 transportation and circulation study fulfill the requirements of Mitigation Measure T-1. Therefore, Mitigation Measure T-1 is no longer applicable.

T-2 Before the County Board of Supervisors adopts an amendment to the Land Use Element or Transportation Element of the General Plan, related to implementation of the Community Reuse Plan, or approves an airport master plan for an airport on the MCAS El Toro site, whichever comes first, the Director of the Public Facilities and Resources Department will prepare an Area Traffic Improvement Action Plan (“Action Plan”). The Action Plan will contain the following:

- i) A defined land use and circulation phasing plan;
- ii) An analysis of the land use phasing plan demonstrating that, in compliance with the County’s GMP and CMP, circulation improvements are implemented commensurate with development milestones;
- iii) A transit impacts analysis;
- iv) A discussion which identifies and assigns the project’s obligation (full share or fair share) to fund road phasing improvements and development milestones, thus assuring that GMP and CMP LOS standards are met;
- v) An updated traffic study, prepared in conjunction with the Transportation Corridor Agencies (TCA), the California Department of Transportation (Caltrans), the Orange County Transit Authority (OCTA) and affected cities and major land owners, which uses the land use and circulation system capacity assumptions contained in the County General Plan (and, where applicable, the assumptions contained in the General Plans of adjacent jurisdictions);

The traffic study will be conducted pursuant to the provisions of the County’s Growth Management Plan (GMP) and Congestion Management Plan (CMP), and will include both an ADT and a peak hour analysis of the proposed project;

The traffic study will also be governed by the County’s Traffic Implementation Manual (TIM), including the General Plan requirement that, within the time frames established by the County’s “traffic level of service policy,” the necessary improvements to arterial highways, to which the project contributes measurable traffic, are constructed and completed to attain the Level of Service (LOS) D, as provided in the TIM. Intersections exempt from the County’s “traffic level of service policy” include facilities under the jurisdiction of a city or the State or those included on the County’s Deficient Intersection

List established pursuant to the Growth Management Element. However, where the Community Reuse Plan contributes measurable traffic to intersections on the Deficient Intersection List, the project will contribute on a pro-rata basis to the Deficient Intersection Fund;

- vi) A mitigation feasibility analysis and cost estimate. This analysis shall identify potential constraints in implementing any recommended traffic mitigation measures for roadways and intersections, so that the feasibility of implementing a particular traffic-related mitigation measure is assessed in conjunction with the feasibility analysis to be undertaken at the project-specific implementation phase of the Community Reuse Plan; and
- vii) A mitigation implementation plan.

Relationship to DEIR No. 573: The methodology and findings of this DEIR No. 573 transportation and circulation study and the ASMP and its supporting technical reports fulfill each of the individual requirements specified in Mitigation Measure T-2 for the preparation of an Area Traffic Improvement Action Plan. Therefore, Mitigation Measure T-2 is no longer applicable.

- T-3 Prior to issuing any building permits, the Director of the ~~Public Facilities and Resources Planning and Development Services Department~~ will shall prepare a Transportation Demand Management (TDM) Plan pursuant to the County Transportation Demand Management Ordinance. The TDM Plan will address such things as vanpooling, fleet pooling, ridesharing, public transit, alternative work hours, bikeways and other measures related to the mitigation of traffic through demand management. The TDM Plan also will establish a program to implement the following air quality mitigation measures which are components of the TDM Plan: AQ-15i, AQ-23, AQ-32, AQ-37, AQ-41, and AQ-42. Annual monitoring reports will be required. These reports will assess the implementation status of the required TDM Plan features. In addition, a transportation coordinator will be provided to support the TDM Plan.

Relationship to DEIR No. 573: Mitigation Measure T-3 remains applicable to the Proposed Project.

- T-4 For highway facilities requiring mitigation for the second-tier Community Reuse Plan process, but that are not under the sole control of the County, mitigation will be coordinated with the affected jurisdictions consistent with Measure M countywide GMP, which requires the County to participate in the Inter-Jurisdictional Planning Forums (IJPFS) at the Growth Management Area (GMA) level to examine regional improvements needed within the affected GMA. Each IJPF develops an annual prioritized list of transportation improvement projects, which is approved by the IJPF's elected officials and submitted to the Orange County Transportation Authority for funding consideration. The County will participate in development of the annual GMA Transportation Improvement Project List for each GMA affected by the project.

For intersections and highway links not under the sole control of the County to which the Project contributes measurable traffic, the County will identify improvements which will mitigate the Project impacts as governed by the applicable standards of the jurisdiction in which the intersection or highway is located, and the County will be responsible for the Project fair share of the mitigation costs. If a mitigation measure is unacceptable to the applicable jurisdiction, and the County or the jurisdiction identifies an alternative mitigation measure which is feasible and acceptable to the jurisdiction and the County, the County will be responsible for the Project fair share of the cost of the alternative improvement; or at the election of the jurisdiction, the County will provide funds to the jurisdiction equal to the fair share mitigation costs to permit the jurisdiction to make alternative improvements acceptable to the jurisdiction.

Relationship to DEIR No. 573: Mitigation Measure T-4 remains applicable to the Proposed Project. A modified version that refers specifically to improvement locations which are not under the sole control of the County is therefore included in the additional transportation and circulation mitigation measures summarized at the end of this section.

T-5 Before the County Board of Supervisors adopts an amendment to the Land Use Element or Transportation Element of the General Plan related to implementation of the Community Reuse Plan, or approves an Airport Master Plan for an airport on the MCAS El Toro site, the Director of the Public Facilities and Resources Department will prepare a Comprehensive Phasing Plan (CPP) consistent with the County's Growth Management Element. With regard to road improvements, the CPP will identify road and infrastructure improvements and a financing plan, and include level of service requirements and take into account measurable traffic impacts on the circulation system within the MCAS El Toro Community Reuse Plan Study Area.

Relationship to DEIR No. 573: Mitigation Measure T-5 remains applicable to the Proposed Project. A modified version that refers to the development of a CPP based on specific project related improvements is therefore included in the additional transportation and circulation mitigation measures summarized at the end of this section.

T-6 In conjunction with Mitigation Measure T-5, the adopted CPP shall include a Development Phasing Plan, consistent with the County's Growth Management Element, to ensure that necessary road improvements or fair share funding are conditions of relevant phases of project development.

Relationship to DEIR No. 573: Mitigation Measure T-6 remains applicable to the Proposed Project. A modified version that refers to the development of a CPP based on the phasing of specific project related improvements is therefore included in the transportation and circulation mitigation measures summarized at the end of this section.

- T-7 Within one year after the approval of an amendment to the Land Use Element or Transportation Element of the General Plan related to implementation of the Community Reuse Plan, or approval of an Airport Master Plan for an airport on the MCAS El Toro site, annual monitoring reports will be required to be prepared by the Director of Planning and Development Services for the project pursuant to the County's Performance Monitoring Program contained in the Growth Management Element of the General Plan.

Relationship to DEIR No. 573: Mitigation Measure T-7 remains applicable to the Proposed Project

9.4.2 DEIR No. 573 Additional Mitigation Measures

- T-8 Prior to issuance of building permits for the initial phase of the ASMP, the County will prepare a Comprehensive Phasing Plan (CPP) consistent with the County's Growth Management Element. The adopted CPP shall include a Development Phasing Plan. With regard to road improvements, the CPP will identify road and infrastructure improvements and a financing plan based on the circulation improvements listed in Tables 4.3-19 and 4.3-20 and their associated implementation dates and project funding obligations, thereby ensuring that necessary road improvements or fair share funding are conditions of relevant phases of project development. All improvements listed in Tables 4.3-19 and 4.3-20 that are within the sole control of the County and are to be fully funded during project development must be constructed prior to or concurrent with issuance of occupancy permits for the project development phase that requires the improvements.
- T-9 Highway improvements listed in Tables 4.3-19 and 4.3-20 that are not under the sole control of the County are subject to the improvement identification and implementation procedures described in Mitigation Measure T-4. Prior to issuing any building permits for the initial phase of the ASMP, the County will enter into a cooperative agreement with the affected local jurisdictions and landowners outlining a course of action to participate on a fair share basis in the implementation of the planned circulation improvements listed in Table 4.3-20. Such an agreement will include conditions ensuring that the improvements listed in Table 4.3-20 would be constructed to the standards of the affected local jurisdictions. If in the event a cooperative agreement cannot be reached with local jurisdictions and adjacent landowners, County will request that OCTA mediate any outstanding issues and adopt a course of action to ensure implementation and funding mechanisms for the Master Plan of Arterial Highways. The County does commit to participate in an implementation and funding program based on the circulation improvements and project fair share percentages identified in Table 4.3-20. This implementation and funding program will be developed in concert with local jurisdictions and affected landowners, with participation by OCTA.
- T-10 Prior to final engineering design, for any project facility connecting to, or located within the right-of-way or property of Caltrans, the Transportation Corridor Agencies, and/or local jurisdictions, the County will enter into an agreement with affected agencies governing the design, operation and construction of the facility to ensure compatibility with the agency's facilities and operations. For project facilities connecting to toll roads,

the agreement with Caltrans and the Transportation Corridor Agencies shall address the project effect on toll revenues to ensure that revenues to the TCA are not reduced from their assumptions or forecasts effective at certification of EIR No. 573.

- T-11 Prior to the final engineering design for ASMP facilities or approval of leases for non-ASMP uses, the County will ensure that parking and loading facilities are incorporated to meet or exceed the County Zoning Code parking regulations. The County will ensure through construction design or lease implementation that parking and loading facilities are provided and maintained per the County Zoning Code parking regulations.

Mitigation Measures T-12 and T-13, which are included in Section 5.4.3.2, address the cumulative transportation and circulation impacts of the project.

- T-14 Prior to issuing any building permits or construction contracts (whichever occurs first) for each phase of the ASMP, the County shall make every reasonable effort to enter into an agreement with the California Department of Transportation (Caltrans) in order to coordinate each project phase with appropriate improvements identified in the Caltrans Traffic Operations Strategies (TOPS) program relative to freeway/tollway mainline impacts identified as a direct result of the proposed project. The TOPS program includes, as necessary, 1a) implementation of “intelligent infrastructure” improvements such as system-wide adaptive ramp metering, changeable message signs, traffic management centers, incident response systems, advanced traveler information systems, and real-time performance measurement systems; 1b) implementation of physical operational improvements such as the construction of freeway auxiliary lanes (merge lanes provided before and after on-ramps), the modification of ramp/city street access, and the addition of short passing lanes and truck climbing lanes; 2) construction of HOV drop ramps and freeway to freeway HOV connectors, as well as closing HOV gaps that exist within corridors; 3) construction of improvements to freeway-to-freeway interchanges to minimize traffic flow disruptions and resulting congestion.

The County commits to participate in the Caltrans TOPS program, including funding to the extent required by law, based on the project fair share percentages identified in Table 4.3-20. Pursuant to CEQA Guidelines Section 15091 (a)(2), implementation of the TOPS program is within the responsibility and jurisdiction of another public agency and not the County of Orange.

- T-15 ~~Prior to issuance of building permits for the initial phase of the ASMP, the County shall incorporate the project site into the Irvine Spectrum Transportation Management Association (TMA) (“Spectrumotion”) in accordance with Article X of the recorded Declaration of Covenants, Conditions and Restrictions (CC&Rs) for the Irvine Spectrum TMA, including any supplementary and amended CC&Rs. The primary goal of the TMA is to reduce morning (6:00-10:00 AM) and evening (3:00-6:00 PM) peak period vehicular traffic within the Spectrum Area.~~ work with the Irvine Spectrum Transportation Management Association and make every reasonable effort to formulate and implement a joint plan, consistent with Mitigation Measure T-3, to reduce morning (6:00 – 10:00 AM) and evening (3:00 – 6:00 PM) peak period vehicular traffic within the Spectrum Area.

T-16 The development of each phase of the ASMP shall be subject to the trip generation restrictions identified in Tables 4.3-8, 4.3-12, 4.3-13, 4.3-15, and 4.3-17. Prior to issuance of building permits for each phase of the project, the County shall prepare a trip monitoring report demonstrating that the project's cumulative level of daily, peak hour and truck traffic is within the trip generation restrictions. A comprehensive traffic analysis shall be conducted prior to approval of any project development phase generating trips in excess of the trip generation limits listed in Tables 4.3-8, 4.3-12, 4.3-13, 4.3-15, and 4.3-17. This traffic analysis shall include identification of appropriate transportation mitigation measures for the increased project trip generation in accordance with County and applicable jurisdictional guidelines.

T-17 Prior to the commencement of construction of the off-site highway improvements listed in Table 4.3-20, the County shall prepare a Construction Management Plan. The Construction Management Plan shall set forth appropriate construction practices necessary to minimize the potential disruption to properties, pedestrians, bicyclists, and motorists during construction of off-site roadway improvements. The following items shall be included in the Plan:

- **Public Notice:** Signs providing advance notice of work to be done on a particular segment shall be posted for a period of two weeks prior to construction. Notification in a local newspaper shall be published two weeks prior to construction. Adjacent property owners and public service providers and utility companies shall also be notified two weeks prior to construction.
- **Traffic Routing:** Signs shall be provided to route vehicular and bicycle traffic through segments under construction. In addition, signs that suggest possible alternate routes shall be posted. Construction vehicle access to construction sites shall occur at off-peak traffic hours. Construction vehicle access routes shall be directed around residential areas. In addition, traffic control personnel shall be provided as necessary to mitigate traffic congestion and to mitigate the impact to arterial service levels during construction in accordance with local, State, and federal standards.
- **Construction Staging:** Storage of construction vehicles, equipment, and materials shall not occur in the immediate vicinity of residential areas and retail establishments.
- **Hours of Construction:** Hours of construction shall conform to established County policy unless otherwise approved by the County.
- **Access to Properties:** Construction activities shall be arranged so that access to properties will be maintained.

Note: Pursuant to CEQA Guidelines Section 15091(a)(2), traffic mitigation measures may be within the responsibility and jurisdiction of another public agency and not the County of Orange.

9.5 MITIGATION RELATED TO NOISE

9.5.1 Final EIR No. 563 Mitigation Measures

- N-1 For Existing Residential and Other Existing Noise Sensitive Uses. CRP projected noise contours for the year 2020 show that there may be residential areas exposed to noise levels in excess of 65 dB CNEL. Other mitigation discussions in this report have described many noise abatement and noise mitigation measures that would reduce noise impacts associated with aviation operations associated with the CRP. The feasibility of implementing one or more of these measures will depend on numerous factors, not all of which are under the control of the County of Orange, and many of which cannot be known or predicted until the master plan level of planning occurs. Until a detailed master plan assessment of the need for and an assessment of the feasibility of implementing each alternative measure can be evaluated in terms of statutory authority and cost benefit, specific commitments to any noise control measure cannot be made at this time. Therefore, the detailed evaluation and selection of noise mitigation measures will be done as part of an Airport Master Plan environmental review process. However, the objective should be to identify operational measures which could reasonably reduce noise levels, in a manner which does not unreasonably or unnecessarily impair the utility of the facility as a commercial airport serving the Orange County community, preferably (and in some cases, necessarily) with the concurrence and cooperation of the airlines, other airport users, and the FAA (See the Airport Noise and Capacity Act of 1990 and Federal Aviation Regulation, Part 161.)
- N-2 For Undeveloped Land – Offsite. The County of Orange has a long history of enforcing the 1981 AICUZ boundary as a Policy Implementation Line as part of its General Plan Noise Element. Given the uncertainties both in the evolving FAA position and guidelines on noise compatibility, the inherent uncertainties in the planning process until a master plan is prepared for a civilian airport, and possible future military activity on the site until the military completes the base closure process, the fairest and most prudent course of action would appear to be to maintain the current noise requirements of the County's General Plan. However, an appropriate noise element amendment should be part of any Airport master planning process undertaken to implement the selected reuse plan.
- N-3 For Onsite Noise Sensitive Uses. The present review and design criteria used by the County of Orange as reflected in the County of Orange standard conditions of approval are adequate for any onsite development. Reuse of residential land uses or construction of new residential uses shall be restricted until the base closure is complete and a civilian master plan process is complete.

- N-4 Measure for Traffic Related Noise. Offsite road noise associated with each of the reuse alternatives may result in noise impacts in the residential areas of Lake Forest. A detailed evaluation of road noise impacts in outdoor residential areas, and development of noise barrier designs or other programs which reduce the outdoor living areas to noise exposures of 65 dB CNEL or less, shall be linked to the reuse of the project site and used to mitigate these road noise impacts.
- N-5 The County will, as part of the airport master planning process, identify specific noise control and mitigation actions which feasibly and effectively can be implemented in connection with the commencement of any civil aviation operations at El Toro, with the objectives being to identify and implement an operational scenario for a civilian airport at El Toro which would result in CNEL contours which are no larger than, and if feasible, smaller than, the contours projected in Figure 4-55 of *Final EIR No. 563 (See Figure 4.1)*. The County will also identify and incorporate a feasible, effective and legally enforceable mechanism to implement that operational scenario.

9.5.2 Proposed Mitigation Measures

- N-6 The County will participate in a fair share program to construct or extend existing sound walls at relevant portions of Trabuco Road between Yale and Jeffrey Road, and along Jeffrey Road just south of Irvine Boulevard, to reduce project caused traffic noise levels in any residential property to a level at or below 65 CNEL.
- N-7 For all project construction, the County will adhere to the County Noise Ordinance and, for off-site improvements in any incorporated areas, any existing applicable local jurisdiction noise ordinances regulating construction noise.
- N-8 The County will construct and implement a noise monitoring system at OCX prior to the opening for public use of the passenger terminal facilities contemplated under the Proposed Project to be completed by the end of Phase 1 of the Proposed Project (2005). This noise monitoring system will include remote microphone stations at locations substantially as shown in Figure 4.4-52 of EIR 573. In addition, upon completion and County acceptance of the noise monitoring system, the County will implement a noise complaint and administration program and staffing comparable to its existing program at JWA.
- N-9 Prior to the initiation of scheduled commercial operations at El Toro, the County will implement an 86 dB SENEL noise mitigation restriction for El Toro during the hours of 11:00 p.m. and 7:00 a.m. The noise level limit will be based upon quarterly energy average SENEL values for scheduled commercial operators by operator and aircraft type and will be enforced at the remote microphone stations installed and monitored pursuant to mitigation measure N-8.

9.6 MITIGATION RELATED TO AIR QUALITY

9.6.1 Final EIR No. 563 Mitigation Measures

AQ-1 Prior to adoption of a construction level plan for the MCAS El Toro site, the County of Orange will include mitigation measures related to construction based on the recommendations of the South Coast Air Quality Management District.

Relationship to DEIR No. 573: This measure has been updated to reflect the current stage of planning. As revised, the measure is replaced by Mitigation Measure AQ-11.

AQ-2 The County of Orange will identify, as necessary, the need for a Transportation Demand Management (TDM) program for the MCAS El Toro site, as part of the construction level environmental documentation for the project.

Relationship to DEIR No. 573: This measure has been updated to reflect the current stage of planning. As revised, the measure is replaced by Mitigation Measure AQ-12.

AQ-3 In order to maintain consistency with the 1994 AQMP, the County of Orange will ensure that construction level environmental documentation for the project incorporates the appropriate mitigation measures identified in the 1994 AQMP that are applicable to airports.

Relationship to DEIR No. 573: This measure has been updated to reflect the current stage of planning. As revised, the measure is replaced by Mitigation Measure AQ-13.

AQ-4 The County of Orange will conduct additional traffic studies concurrently with construction level environmental documentation, to determine how to improve the capacity and minimize congestion at the intersection of Bake Parkway and Trabuco Road. If additional intersections are found in these detailed traffic studies to be adversely impacted, additional analysis to improve those intersections will also be conducted.

Relationship to DEIR No. 573: The methodology and findings of this DEIR No. 573 transportation and circulation study fulfill the requirements of Mitigation Measure AQ-4. Therefore, Mitigation Measure AQ-4 is no longer applicable.

AQ-5 During design of the aviation uses on the site, the County of Orange will consider including electrical power outlets for landside passenger shuttles, including incorporation of electrical power outlets in the terminal, and parking lot design to accommodate electric shuttle vehicles. This would include providing electrical outlets for battery charging for passenger shuttles that serve hotels, rental car agencies, and other businesses.

Relationship to DEIR No. 573: This measure has been updated to reflect the current stage of planning. As revised, the measure is replaced by Mitigation Measure AQ-14.

AQ-6 During design of the aviation uses on the site, the County of Orange will consider encouraging the use of alternative fuel vehicles powered by natural gas, propane, and/or other alternative fuels, and providing fuel storage facilities for these alternative fuels.

Relationship to DEIR No. 573: This measure has been updated to reflect the current stage of planning. As revised, the measure is replaced by Mitigation Measure AQ-15.

AQ-7 During the preparation of construction level environmental documentation for the project, the County of Orange or the airport operator will require that plans and procedures be prepared that includes the requirement for final design studies to minimize taxi-in and taxi-out times and reduce aircraft queuing times. These may include, but are not limited to, design features and specific operations procedures.

Relationship to DEIR No. 573: This measure has been updated to reflect the current stage of planning. As revised, the measure is replaced by Mitigation Measure AQ-16.

AQ-8 During design of the aviation uses on the site, the County of Orange will consider including electrical power and preconditioned air in the design of the terminal gates (jetways), to reduce emissions from operating aircraft engines at the gates.

Relationship to DEIR No. 573: This measure has been updated to reflect the current stage of planning. As revised, the measure is replaced by Mitigation Measure AQ-17.

AQ-9 During design of the aviation uses on the site, the County of Orange will consider including electrical power outlets for electric ramp vehicles, and for battery charging for ground support equipment.

Relationship to DEIR No. 573: This measure has been updated to reflect the current stage of planning. As revised, the measure is replaced by Mitigation Measure AQ-18.

AQ-10 During design of the aviation uses on the site, the County of Orange will consider incorporating hydrant fueling systems for commercial jet aircraft operations.

Relationship to DEIR No. 573: This measure has been updated to reflect the current stage of planning. As revised, the measure is replaced by Mitigation Measure AQ-19.

9.6.2 Mitigation Measures Updating Final EIR No. 563 Mitigation

Construction Emissions

AQ-11a: Dust Suppression

During construction of the Proposed Project, the County of Orange and its contractors will be required to comply with regional rules, which would assist in reducing short-term air pollutant emissions. SCAQMD Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site. SCAQMD Rule 403 requires that fugitive dust be controlled with the best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. Applicable dust suppression techniques from Rule 403 are summarized below. Additional dust suppression measures in the SCAQMD CEQA *Air Quality Handbook* are included as part of the project's mitigation. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and thus the PM₁₀ component) from grading by 50 percent.

Applicable Rule 403 Measures:

- Apply non-toxic chemical soil stabilizers according to manufacturers' specifications, to all inactive construction areas (previously graded areas inactive for ten days or more).
- Water active sites at least two times daily. (Locations where grading is to occur will be thoroughly watered prior to earth moving).
- All trucks hauling dirt, sand, soil, or other loose materials are to be covered, or should maintain at least two feet of freeboard in accordance with the requirements of California Vehicle Code (CVC) section 23114 (freeboard means vertical space between the top of the load and top of the trailer).
- Pave construction access roads at least 100 feet onto the site from main road.
- Traffic speeds on all unpaved roads shall be reduced to 15 mph or less.

Additional SCAQMD CEQA Air Quality Handbook Dust Measures:

- Revegetate disturbed areas as quickly as possible.
- All excavating and grading operations shall be suspended when wind speeds (as instantaneous gusts) exceed 25 mph.
- All streets shall be swept once a day if visible soil materials are carried to adjacent streets (recommend water sweepers with reclaimed water).
- Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash trucks and any equipment leaving the site each trip.

The following mitigation measures shall be implemented by the County and its contractors during all phases of construction of the project to supplement the above standard SCAQMD measures to further reduce the fugitive dust air quality impacts:

AQ-11b: Dust Suppression

- Apply Penzsuppress or comparable soil binders consistent with manufacturer's specifications to all unpaved parking and staging areas and unpaved road surfaces. Penzsuppress and other similar materials are capable of binding unpaved roads and surfaces, reducing fugitive dust emissions generated by vehicles traveling over the unpaved surfaces by 90%.

AQ-11c: Dust Suppression

- All locations where scrapers, dozers and compactors will be traveling on exposed earth shall be watered four times per day and soil binders shall be used daily as necessary, consistent with manufacturers directions. When combined with mitigation measure AQ-11a this will reduce fugitive dust emissions from equipment travel on exposed earth by 80%.

AQ-11d: Dust Suppression

- All demolition materials shall be wet crushed. By wetting all demolition materials before crushing, the fugitive dust emissions from demolition are reduced by approximately 88%.

AQ-11e: Dust Suppression

- Increase watering from twice a day to four times daily during initial storage pile placement and maximize application of non-toxic soil binders according to manufacturer's specifications to exposed stock piles (i.e., gravel, sand, dirt) with five percent or greater silt content. This mitigation measure will reduce fugitive dust from storage piles by 90%.

AQ-11f: Dust Suppression

- All grading equipment will be mounted with TrueFog dust suppression technology or comparable technology. This technology sprays a very fine mist of water around the construction equipment. This mist combines with the fugitive dust in the air causing it to fall back to the ground. When combined with mitigation measure AQ-11a this will reduce fugitive dust emissions from grading by 75%.

AQ-11g: Exhaust Emission Reduction

The SCAQMD CEQA Air Quality Handbook outlines several mitigation measures that will be utilized by the County and its contractors to minimize the potential impact from equipment exhaust emissions during all construction phases. These mitigation measures are listed below:

- Configure construction parking to minimize traffic interference.
- Provide temporary traffic control during all phases of construction activities to improve traffic flow (e.g., flagperson).

- Schedule construction activities that affect traffic flow to off-peak hours (e.g., between 7:00 p.m. and 6:00 a.m. and between 10:00 a.m. and 3:00 p.m.).
- Develop a construction traffic management plan that includes, but is not limited to:
 - Rerouting construction trucks off congested streets.
 - Consolidating truck deliveries.
 - Providing dedicated turn lanes for movement of construction trucks and equipment on-site and off-site.
- Suspend all construction equipment operations during second stage smog alerts. For daily forecast, to identify second stage smog alerts, the following number should be called: ~~(800) 242-4022~~ 1-800-288-7664 (1-800-CUT-SMOG) (Los Angeles and Orange counties).
- Use electricity from power poles rather than temporary diesel power generators whenever feasible.
- Use electricity from power poles rather than temporary gasoline power generators whenever feasible.
- Develop a construction management plan to minimize the use of construction fleet vehicles and equipment.
- Prevent utility and delivery trucks from idling on-site longer than two minutes.

The following additional mitigation measures to reduce vehicle/equipment emissions shall be implemented by the County and its contractors to supplement the above standard SCAQMD measures to reduce the construction air quality impacts during all construction phases (unless otherwise noted):

AQ-11h: Exhaust Emission Reduction

- All on-site mechanic and foreman trucks and vehicles will be required to meet Super Ultra Low Emission Vehicle (SULEV) or Zero Emission Vehicle (ZEV) emission standards.

AQ-11i: Exhaust Emission Reduction

- Off-road construction equipment shall comply with the requirements 40 CFR (9,86, and 89) Tier 2 emission requirements, which provide for strict emission limit requirements for construction vehicles. Federal regulations require that all new off-road construction equipment meet the Tier 2 emission requirements by Phase 1 (The date of implementation is dependent upon the horsepower rating of the engine.) All equipment used for the Proposed Project will be required to meet the regulations beginning on the first day of construction.

AQ-11j: Exhaust Emission Reduction

- All off-road construction equipment shall comply with the requirements of AQMP Measures M9 and M10 limiting brake horsepower/per hour emissions to 2.5 grams of NOx. All new off-road construction equipment will be required to meet the CARB's 2.5 g/bhp-h emissions threshold by Phase 1. All equipment used for the Proposed Project will be required to meet the regulations beginning on the first day of construction.

AQ-11k: Exhaust Emission Reduction

- The use of selective catalytic reduction (SCR) or comparable technology shall be used for all on-site construction equipment. SCRs and other emission reduction technologies capable of reducing NO_x emissions by at least 70% will be available, and must be installed on all off-road construction equipment, beginning on the first day of construction.

AQ-11l: Exhaust Emission Reduction

- All off-road construction equipment shall be fitted with a particulate trap with a minimum 80% PM₁₀ reduction efficiency, which will substantially reduce soot from diesel engine exhaust.

AQ-11m: Exhaust Emission Reduction

- All on-site construction equipment and all construction material delivery trucks shall be required to use low sulfur diesel fuel (15 ppm). Low sulfur fuel contains up to 97% less sulfur than standard diesel fuel, which allows for the use of exhaust control devices that substantially reduce air pollution from construction vehicles. Several of the new technologies, including SCR and the new on-road diesel engines, require the use of low sulfur diesel fuel to function properly and to avoid damage.

AQ-11n: Exhaust Emission Reduction

- All construction material delivery trucks shall be required to meet the 2000 EPA on-road diesel regulations. Effective in Phase 1, all new on-road diesel truck will be required to meet strict emission regulations that will dramatically reduce NO_x, PM₁₀, and SO_x emissions. All on-road material delivery trucks serving the Proposed Project will be required to meet the new regulations before any material deliveries or debris hauling can be performed.

AQ-11o: Exhaust Emission Reduction

- To the maximum extent permitted by law and regulations, the County and its contractors shall require that construction workers be housed (Monday through Friday) on-site in trailers/mobile homes/RVs or reused military housing, and shall provide rail/bus/metro passes or clean vehicle shuttle service for those construction workers that will not be housed on-site.

AQ-11p: Exhaust Emission Reduction

- The County and its contractors shall provide clean-fleet shuttles to major rail transit stations and multi-modal centers during the construction phases of the project. The Irvine Transportation Center is located adjacent to the OCX project site.

AQ-11q: Exhaust Emission Reduction

- The County and its contractors shall develop an on-site rock crushing facility to recycle and reuse demolition debris (rock/concrete) to reduce material delivery and debris hauling trips. This will reduce material delivery and debris hauling emissions by approximately 6%.

AQ-11r

- Construction schedules shall be adjusted consistent with the market availability of technology required for construction equipment.

AQ-11s: Asphalt Paving

- The construction contractors shall utilize emulsified asphalts that do not contain volatile hydrocarbons in lieu of cutback asphalts to avoid VOC/ROC emissions associated with cutback asphalts.

AQ-11t: Architectural Coatings

- The County and its contractors shall minimize the amount of architectural coatings by utilizing spray equipment that have high transfer efficiencies, such as the electrostatic spray gun and manual paint applicators (rollers, brushes, sponge).

AQ-11u: Architectural Coatings

- The construction contractors shall maximize, to the extent feasible, the use of precoated materials or materials that have natural surfaces (marble, glass) that do not require the application of architectural coatings. The building surface areas used for the project shall be at least 70 percent precoated or composed of natural surfaces.

AQ-11v: Architectural Coatings

- The County shall use low or zero VOC content paints wherever feasible to reduce VOC emissions from architectural coatings.

AQ-11w: Asbestos Removal

- All asbestos removal activities shall comply with the requirements of SCAQMD Rule 1403.

Operational Emissions

The significant operational emissions impacts identified for the Proposed Project would be mitigated by the following feasible mitigation measures:

- AQ-12 Consistent with Mitigation Measure T-3 in Section 4.3 of Draft EIR No. 573, prior to issuing any building permits, the Director of the Planning and Development Services ~~Public Facilities and Resources~~ Department shall prepare a Transportation Demand Management (TDM) Plan for the MCAS El Toro site pursuant to the County

Transportation Demand Management Ordinance. The TDM Plan will address such things as vanpooling, fleet pooling, ridesharing, public transit, alternative work hours, bikeways and other measures related to the mitigation of traffic through demand management. The TDM Plan also will establish a program to implement the following air quality mitigation measures which are components of the TDM Plan: AQ-15i, AQ-23, AQ-32, AQ-37, AQ-41, and AQ-42. Annual monitoring reports will be required. These reports will assess the implementation status of the required TDM Plan features. In addition, a transportation coordinator will be provided to support the TDM Plan.

- AQ-13 Prior to commencement of construction, the County and its contractors shall incorporate into construction programs the appropriate mitigation measures applicable to airports identified in the 1994 and 1997 AQMPs. The 1997 AQMP contains one “Off-Road Mobile Source Control Measure” for aircraft (1997 AQMP Number M15). M15 reflects U.S. EPA adoption of nationwide emission standards for new aircraft engines. The focus of M15 is on the U.S. EPA since the federal government has sole authority over these emission sources. M15 is a mitigation measure that is to be implemented by and within the control of agencies other than the County of Orange. Other AQMP mitigation measures applicable to the non-aircraft portion of an airport are also included in these mitigation measures.
- AQ-14 The County of Orange shall include electrical power outlets for landside passenger shuttles, including incorporation of electrical power outlets in the terminal and parking lot designed to accommodate electric shuttle vehicles no later than the opening of the new terminal, contemplated to occur at the end of Phase 1. This would include providing electrical outlets for battery charging for passenger shuttles that serve hotels, rental car agencies, and other businesses associated with airport operations.
- AQ-15 Prior to opening Phase 1, the County of Orange shall require the following mitigation measures applicable to alternative fuels:
- a) For airport owned and operated (directly or by contract) vehicles, the County shall require County owned airport support vehicles to use conventional or alternative fueled vehicles that achieve exhaust emissions equivalent to a SULEV or better. The type of alternative fuel vehicles selected shall reflect the appropriate power technology available at the time of vehicle acquisition. The County shall design the terminal area with the necessary infrastructure to fuel these vehicles.
 - b) The County shall require third party vehicles (such as shuttles, trucks and vans) using terminal areas to use low emission alternative fuels (comparable to SULEV emissions or better) and will provide all reasonably necessary facilities to fuel these vehicles. These facilities shall be provided no later than the opening of the new terminal, contemplated to occur at the end of Phase 1.

- c) The County shall provide preferential parking for alternative fueled vehicles in connection with all phases of the Proposed Project sufficient to encourage the increased use of alternative fuel vehicles in the fleet mix for the Basin.
- d) The County shall include in its bid proposals for rental vehicles and taxicab services in connection with operations in all phases of the Proposed Project a provision that requires the use of conventional or alternative fueled vehicles at the airport that achieve emissions equivalent to a SULEV or better, in compliance with SCAQMD Rule 1194.
- e) The County shall use incentives to encourage the use of alternative fueled rental cars using on-airport RAC facilities.
- f) The County shall use solar and/or low emission water heaters.
- g) The County shall use central water heating systems.
- h) The County shall use incentives to encourage the use of alternative fueled vehicles or engines in commercial vehicles using the terminal areas, in cargo vehicles entering the airport. The County shall require all leaseholders with diesel vehicles in their fleets to commit to 90% clean diesel fueled vehicles by Phase 1. The County shall also require that diesel fueled delivery and service trucks coming to the site to serve leaseholders be clean diesel fueled by completion of Phase 1. Clean diesel fueled vehicles are those that comply with the final federal rule regarding on-road diesel emissions issued in December, 2000, 40 CFR Parts 69, 80, and 86.
- i) The County shall require an average vehicle ridership (AVR) of 1.5 passengers for project employees, ensure that employees for both the airport and non-aviation land uses are provided information on carpooling and mass transit systems in an effort to increase the average vehicle ridership (AVR) and reduce traffic congestion and air pollutant emissions; and make available to the public information on mass transit systems through the use of signage, pamphlets, ~~or~~ information kiosks, or the County's website to promote the usage of mass transit and reduce traffic congestion as well as air and noise pollution.

AQ-16 Prior to final design, the County shall ensure that final design for each phase of the project will maintain the ASMP features to minimize taxi-in and taxi-out times and reduce aircraft queuing times. These features incorporate airfield and terminal design and location of the terminal (selected to facilitate ready access to the airfield).

AQ-17 The County of Orange shall include electrical power and preconditioned air in the design and construction of the OCX terminal gates (jetways) during each phase of the project, to reduce emissions from operating aircraft engines at the gates. These facilities allow airlines to avoid emissions associated with running the aircraft's auxiliary power unit while it is parked at the gate. The County of Orange shall advise

the tenant airlines in writing that the County supports the use of electrical power and preconditioned air at the OCX and JWA terminal gates (jetways) in order to reduce emissions from operating aircraft engines at the gates. This measure is partly within the responsibility and jurisdiction of the airlines.

- AQ-18 The County of Orange shall include electrical power outlets at OCX for electric ramp vehicles, and for battery charging for ground support equipment. The facilities will allow the airlines to convert their GSE to clean fuels. The facilities will be provided no later than the opening of the new terminal, contemplated to occur at the end of Phase 1.
- AQ-19 The County of Orange shall incorporate hydrant fueling systems for commercial jet aircraft operations at OCX. In addition, all new fuel handling and storage facilities will comply with the latest emission reduction regulations. These facilities will be provided consistent with the contemplated phasing of these facilities.
- AQ-20 The County of Orange shall advise tenant airlines in writing that the County supports the use of single or reduced engine taxiing to the extent that it would provide identifiable air quality benefits to the local community and the region, and if and to the extent, that it is determined by the FAA and the airlines to be a safe and efficient operational procedure for air carrier aircraft at OCX and JWA. This measure is within the responsibility and jurisdiction of the FAA and airlines.

9.6.3 Additional Mitigation Measures

Mitigation Measure HM-2, in Section 4.16, Hazardous Wastes and Hazardous Materials Use, addresses compliance with SCAQMD Rule 1403, Asbestos Emissions From Demolition/Renovation Activities during the project construction period.

Additional mitigation measures were also identified for this air quality analysis that were not considered applicable at the time EIR No. 563 was prepared. All of these mitigation measures will be implemented no later than the opening of the new terminal, contemplated to occur at the end of Phase 1, unless otherwise specified.

- AQ-21 The County of Orange will use its best efforts, in cooperation with airport users and FAA, to achieve a percentage of Runway 34 departures that would be sufficiently greater than fifty (50) percent of such departures occurring on Runway 34R from and after the end of Phase 2 of the project, after the year 2010, to result in a one hour ~~an~~ ~~annual arithmetic mean (AAM)~~ NO₂ value at the Irvine Transportation Center less than 0.25 ~~0.0534~~ ppm. This mitigation measure is within the responsibility and jurisdiction of the FAA and the FAA can and should approve this measure.

- AQ-22 The County of Orange shall implement a program at the Proposed Project for the use or conversion of at least 64 percent of ground support equipment (GSE) to electric powered by Phase 2 and 83.5 percent by Phase 4.

- AQ-23 The County of Orange shall provide free shuttles for passengers and employees from the Airport Transportation Center to the terminal.
- AQ-24 The County of Orange shall install a monitoring system to ensure compliance with alternative fuel measures for airport shuttles and taxis at OCX.
- AQ-25 The County of Orange shall use lighting controls and energy efficient lighting at OCX in the design of airport facilities.
- AQ-26 The County of Orange shall use energy efficient low pressure sodium parking lot lights at OCX.
- AQ-27 The County shall purchase electricity for OCX and JWA from “green,” non-polluting sources. Energy efficient building design shall be employed for the airport terminal to reduce consumption of electricity and gas. The energy efficient design shall include, but not be limited to, the following measures: orient terminal buildings design to the north for natural cooling and include passive solar design (e.g., daylighting); use fuel cells to produce heat and electricity; use light colored roof material to reflect heat; and use energy efficient or low emission appliances.
- AQ-28 The County of Orange shall use energy efficient and automated controls for air conditioners at OCX.
- AQ-29 The County of Orange shall provide preferential parking spaces for carpools and vanpools and provide 7 ft. 2 inches minimum vertical clearance in parking facilities for vanpool access at OCX.
- AQ-30 The County of Orange shall implement an on-site circulation plan in parking lots to reduce vehicle queuing at OCX.
- AQ-31 The County of Orange shall provide for on-site employee services such as food services, financial services, etc., at OCX.
- AQ-32 The County of Orange shall construct on-site bus turnouts and passenger shelters at OCX.
- AQ-33 The County of Orange shall require all construction deliveries to be made with clean fuel vehicles.
- AQ-34 The County shall promote the use of clean-fueled cargo vehicles through on-airport access pricing at cargo facilities for clean fuel trucks (CNG, LNG).
- AQ-35 The County shall design the parking facilities to encourage pay-on-foot (before getting into car) to minimize idle time.

- AQ-36 The County shall provide free parking, charging stations, and preferential parking locations for electric vehicles in all (including employee) lots.
- AQ-37 The County shall establish airport shuttle bus services from significant trip origin locations in the region.
- AQ-38 The County shall manage curbside drop-off by controlling traffic flows and providing coupon incentives for passengers to use shuttle van services.
- AQ-39 The County shall use clear signing and information systems on roadways to direct traffic through airport.
- AQ-40 The County shall require that contractors or lessees implement a home dispatching system where airport employees receive routing bus schedule by phone or electronically instead of driving to work at airports.
- AQ-41 The County shall include bicycle parking facilities, such as bicycle lockers and racks.
- AQ-42 The County shall include showers for pedestrian and bicycling employees' use.
- AQ-43 The County of Orange will attempt to enter into a Memorandum of Agreement with the South Coast Air Quality Management District and the California Air Resources Board to conduct toxic emission concentration measurements in the vicinity of JWA and OCX and provide the Orange County Board of Supervisors with annual reports regarding these measurements. This monitoring effort will allow the County to correlate the actual measured concentrations with those predicted in this SA. The County anticipates that this monitoring effort will support the conclusion that the modeling results of this SA incorporate worst case assumptions and are conservative similar to what was found at SeaTac Airport in connection with its monitoring efforts. This mitigation measure is partially within the control of SCAQMD and CARB and they can and should approve and implement this measure. ~~This mitigation measure is partially within the control of SCAQMD and CARB and they can and should approve and implement this measure.~~
- AQ-44 Prior to commencement of construction, the County shall use its best efforts to obtain RECLAIM Program Credits allocated to El Toro from the federal government as a part of the BRAC process in order to offset the NO_x and SO_x emissions of the project. This mitigation measure is within the jurisdiction of the federal government, which can and should implement this measure.
- AQ-45 The County shall centralize the airport rental car facilities and provide a consolidated shuttle service.

Note: Mitigation Measures numbered AQ-13, AQ-20, AQ-21, AQ-43, and AQ-44 are within the jurisdiction and control, in whole or part, of public agencies or entities other than the County of

Orange. Therefore, these mitigation measures are not relied upon in this Supplemental Analysis to determine significance of adverse impacts after mitigation.

The following mitigation measures were considered to reduce the health risk impacts associated with the proposed project.

- TAC-1 The County shall require that a minimum of ~~70-64~~ percent of all commercial GSE will be powered with electric power by Phase 1, and ~~90-83.5~~ percent by Phase 2 (see Mitigation Measure AQ-22).
- TAC-2 The County shall require that 400 Hz power and preconditioned air be provided at each commercial aircraft gate, eliminating the need for jet aircraft to use APUs (see Mitigation Measure AQ-17).
- TAC-3 The County shall require that all light/medium/heavy diesel vehicles transporting cargo or Jet-A fuel on OCX or JWA be in compliance with the new EPA and CARB rules for reducing diesel PM10 from exhaust. A reduction of 80% of diesel exhaust PM10 from these sources is assumed with this measure (see Mitigation Measure AQ-15).
- TAC-4 The County of Orange will use its best efforts to enter into a Memorandum of Agreement with the South Coast Air Quality Management District and the California Air Resources Board to conduct toxic air contaminant measurements, to the extent possible, in the vicinity of JWA and OCX and to provide annual reports to the Orange County Board of Supervisors regarding the results of these monitoring efforts. This monitoring effort should allow the County to correlate the actual measured concentrations with those predicted in this SA. The County anticipates that this monitoring effort will support the conclusion that the TAC modeling results of this SA incorporate worst case assumptions and are conservative. If the actual measurements result in exceedances of established threshold levels, the County shall aggressively pursue the implementation of any new technological advances that may be available at that time to mitigate any exceedances. These measures may include, but not be limited to, aircraft engine emissions reduction technologies and low emission fuel replacements, both of which are currently in the development process by FAA and other private and public entities.

9.7 MITIGATION RELATED TO SOILS, GEOLOGY AND SEISMICITY

9.7.1 Final EIR No. 563 Mitigation Measures

G-1 Mitigation Measure for Soils: Prior to acquiring a grading permit for project construction, the County of Orange will require preparation of a Geology Report and Preliminary and Final Soils Reports, to specifically assess the following:

- i) the shrink-swell potential of potentially expansive soils on the site and specifically address this issue with appropriate recommendations for soil treatments, grading procedures and/or foundation designs, as appropriate, for the planned land uses on the site.
- ii) the issues of possible hydroconsolidation and settlement of soils through the addition of irrigation water to the site and variations in groundwater levels in any possibly collapsible soils on the site.
- iii) the issues of soils removal and recompaction where necessary and the suitability of the soils on the site that will be excavated for use as structural fills on the MCAS El Toro site.

The recommendations from the Geology and Soils report will be incorporated into the grading plan for the project to be followed by the County.

G-2 Mitigation Measure for Fugitive Dust: Prior to obtaining a grading permit for project construction, the County of Orange will require the Geology Report and the Preliminary and Final Soils Reports to specifically assess grading control with special emphasis on controlling fugitive dust which could be generated during site preparation, grading and construction. These reports will specifically provide for establishing procedures for dust control and monitoring so that unacceptable levels of dust do not escape from the site. These dust control measures will be coordinated with the dust control measures described earlier in Section 4.5 (Air Quality).

The standards and procedures developed in the reports will be incorporated into the grading plan to be followed by the County.

G-3 Mitigation Measure for Seismicity: With regard to the potential for severe seismic shaking due to major earthquakes on any of the several active faults in southern California, the County of Orange will ensure that all structures on the MCAS El Toro site will be designed in accordance with the seismic design provisions in the Geotechnical Report and of the Uniform Building Code to promote safety in the event of such an earthquake.

- G-4 Prior to obtaining a grading permit for project construction, the County of Orange will require that detailed geotechnical and hydrological reports be prepared specifically addressing any needed modifications to the existing drainages on the MCAS El Toro site. These reports will also specifically address the issue of erosion control for the construction phase and long term operations of the planned land uses on the site. These geotechnical and hydrologic reports will also address surface runoff from the MCAS El Toro site into the channels during construction and/or modifications of the channels and during grading for the planned land uses on the site, with specific recommendations to prevent soil erosion, siltation and debris influx into the drainage system. The reports will also address the ecological sensitivity of the down drainage areas such as San Diego Creek and Upper Newport Bay to increased runoff and siltation. Recommendations and procedures will be developed to ensure these sensitive areas are not subjected to increased runoff, siltation and debris influx as a result of the planned land uses on the MCAS El Toro site.

The standards and procedures developed in the reports will be incorporated into the grading plan to be followed by the County.

9.8 MITIGATION RELATED TO HYDROLOGY AND WATER QUALITY

9.8.1 Mitigation Measures Identified in Final EIR No. 563

9.8.1.1 Hydrology

Final EIR No. 563 determined that no significant hydrologic impacts would result from the CRP and, therefore, no hydrologic mitigation measures were identified.

9.8.1.2 Water Quality

Final EIR No. 563 determined that the long-term water quality impacts associated with the CRP were potentially significant and adverse and, on that basis, identified the following mitigation measures to reduce potential impacts to a level below significant:

- WQ-1 The County of Orange will require project developers to implement the appropriate measures, or participate in a fee program to finance such measures, for implementation of the County's sediment control program known as the "208 Plan" as documented in the Flood Control Master Plan for San Diego Creek.

Relationship to DEIR No. 573: Mitigation Measure WQ-1 is specifically directed at the CRP, which contemplated that private parties would develop the MCAS El Toro site. Under the Proposed Project, the County will be the primary developer. As such, the County will ensure compliance with all 208 Plan-related directives, as appropriate.

WQ-2 Prior to issuance of grading permits and prior to any grading on the site, the project developers and/or the County of Orange will obtain appropriate 401 (Water Quality Certification), 402 (National Pollutant Discharge Elimination System), 404 (dredge and fill) and 1601/1603 (streambed alteration) permits.

Relationship to DEIR No. 573: Mitigation Measure WQ-2 remains applicable to the Proposed Project. See EIR No. 573 Mitigation Measure WQ-4.

WQ-3 The County will assess any need for revisions to the San Diego Creek Flood Control Master Plan and require the project to pay its fair share of improvements to implement the San Diego Creek Flood Control Master Plan.

Relationship to DEIR No. 573: The improvements to the MCAS El Toro drainage system that are part of the Proposed Project are consistent with and in furtherance of the San Diego Creek Flood Control Master Plan. Throughout project implementation, the County will continue to assess the Master Plan as it applies to the Proposed Project and pay its fair share for improvements, as appropriate.

9.8.2 Mitigation Measures Identified in Final EIR No. 563, Final Supplemental Analysis

9.8.2.1 Hydrology

Seven mitigation measures related to hydrology impacts were recommended in the Supplemental Analysis to Final EIR No. 563. Four of the mitigation measures (HY-3 through HY-6) were directed toward impacts not caused by any of the reuse alternatives, including the CRP. Rather, these mitigation measures were deemed to be beneficial in reducing substantial regional flooding caused by previously existing off-base flows and to reduce excess Marshburn Channel outflow caused only in part by the CRP or other reuse alternatives.

The following mitigation measures were recommended as a means to reduce flooding conditions related to the Marshburn Channel to non-significant levels. It also was noted the completion of the Marshburn Retarding Basin would enhance water quality significantly by reducing sediment loads within the channel.

HY-1 During the airport system master planning process (and by a date not later than the issuance of grading permits), the County of Orange will reconstruct and expand, or cause the appropriate entity to reconstruct and expand, the Marshburn Channel to a level capable of accommodating project-related flows (in the event such improvements have not already been completed prior to that time); and

Relationship to DEIR No. 573: Interim improvements completed in 1997 to the Marshburn Channel (the expansion of the Marshburn Channel between Interstate 5 and Trabuco Road) constitute the effective implementation of Mitigation Measure HY-1.

HY-2 During the airport master planning process (and by a date no later than the issuance of grading permits), the County of Orange will construct, or cause the appropriate entity to construct, the Marshburn Retarding Basin to a level capable of accommodating project-related flows (in the event such improvements have not already been completed prior to that time).

Relationship to DEIR No. 573: Interim improvements completed in 1998 to the Marshburn Retarding Basin constitutes the effective implementation of Mitigation Measure HY-2.

The following mitigation measures to the Bee Canyon Channel were identified as a means to substantially reduce flooding at the southern base boundary and to substantially reduce regional flooding upstream of the base (both impacts not caused by any of the reuse alternatives). It also was noted that the completion of the Bee Canyon Channel would enhance water quality significantly by reducing sediment loads within the channel.

HY-3 During the airport master planning process (and by a date no later than the issuance of grading permits), the County of Orange will reconstruct the Bee Canyon Channel in a manner which diverts excess flows into the Marshburn Retarding Basin at a level capable of accommodating project flows (in the event such improvements have not already been completed prior to that time).

Relationship to DEIR No. 573: Interim diversion of excess flows from the Bee Canyon Channel into the Marshburn Retarding Basin completed in 1998 constitutes the effective implementation of Mitigation Measure HY-3.

HY-4 During the airport master planning process (and by a date not later than the issuance of grading permits), the County of Orange will modify, or cause the appropriate entity to modify, the Bee Canyon Channel at Lambert Road to a level that will accommodate project-related flows (in the event such improvements have not already been completed at that time).

Relationship to DEIR No. 573: Interim channel modifications at Lambert Road in 1998 constitute the effective implementation of Mitigation Measure HY-4.

HY-5 During the airport master planning process (and by a date not later than the issuance of grading permits), the County of Orange will reconstruct, or cause to reconstruct, the Bee Canyon Channel stilling basin and related tailworks near the southern base boundary to a level capable of accommodating project-related flows.

Relationship to DEIR No. 573: As noted in the Final Supplemental Analysis and related findings adopted by the County, Mitigation Measure HY-5 (as well as Mitigation Measure HY-7) is directed at impacts not caused by the CRP. While CEQA does not require that such impacts be mitigated, the County will, as is its custom, work cooperatively with any governmental or private entities undertaking or responsible for any improvements recommended by Mitigation Measure HY-5 (and HY-7) during project implementation. In any event, as discussed in Section 4.8.6.1, Bee Canyon flows exiting the base under the Proposed Project utilize only 75% of the channel's capacity, and mitigation is not required.

The following mitigation measure related to the Agua Chinon Channel was identified as a means to substantially reduce regional flooding upstream of the base (an impact not caused by any of the reuse alternatives) and as a means to reduce excess outflow caused in part by any of the reuse alternatives. It was also noted that the completion of the Agua Chinon Retarding Basin would significantly enhance water quality by reducing sediment loads within the channel.

HY-6 During the airport master planning process (and by a date no later than the issuance of grading permits), the County of Orange will construct, or cause the appropriate entity to construct, the Agua Chinon Retarding Basin north of MCAS El Toro to a level capable of accommodating project-related flows (in the event such improvements have not already been completed by that time).

Relationship to DEIR No. 573: Completion of construction of the Agua Chinon Retarding Basin in 1997 constitutes the effective implementation of Mitigation Measure HY-6.

The following mitigation measure, related to the Borrego Canyon Channel, was identified as a means to permit existing regional discharges, while limiting potential damage to the railroad, to non-significant levels:

HY-7 During the airport master planning process (and by a date not later than the issuance of grading permits), the County of Orange will: (i) construct, or cause the appropriate entity to construct, a concrete-lined section or stilling basin in the Borrego Canyon Channel to a level capable of accommodating project-related flows; and, (ii) construct, or cause the appropriate entity to construct, improved railroad bridge supports and abutments at the juncture of the Borrego Canyon Channel and the OCTA bridge to a level capable of accommodating project-related flows.

Relationship to DEIR No. 573: As noted in the Final Supplemental Analysis and related findings adopted by the County, Mitigation Measure HY-7 (as well as Mitigation Measure HY-5) is directed at impacts not caused by the CRP. While CEQA does not require that such impacts be mitigated, the County will, as is its custom, work cooperatively with any governmental or private entities undertaking or responsible for any improvements recommended by Mitigation Measure HY-7 (and HY-5) during project implementation. In any event, as discussed in Section 4.8.6.1, Borrego Channel flows exiting the base under the Proposed Project are approximately 1% over existing conditions, utilizing only 75% of the channel's capacity, and mitigation is not required.

Implementation of Mitigation Measures HY-5 and HY-7 was not recommended since these measures would improve conditions unrelated to the CRP.

9.8.2.2 Water Quality

The Supplemental Analysis determined that, under the CRP, water quality would not be significantly impacted as on-base sediment discharges would either decrease over existing levels (Marshburn, Bee Canyon Channels) or not be impacted (Agua Chinon, Borrego Canyon Channels). For this reason, the Supplemental Analysis did not propose mitigation measures related to water quality.

9.9 MITIGATION RELATED TO BIOLOGICAL RESOURCES

9.9.1 Final EIR No. 563 Mitigation Measures

Final EIR No. 563 did not include any mitigation measures for biological resources.

9.9.2 Additional Mitigation Measures

Although there are no identified direct significant impacts anticipated to result from implementation of the Proposed Project, the following mitigation program for biological resources includes precautionary or preventative measures to ensure that activities during construction do not cause nest abandonment by listed species such as the California gnatcatcher or raptor species such as nesting hawks. These measures are proposed because of the anticipated long-term construction activities necessary to implement the Proposed Project and the potential for indirect impacts that might occur in the areas closest to the Habitat Reserve during construction, such as noise, motion, and startle effects resulting from construction workers, equipment operation, and other activities.

Direct impacts during construction are also addressed in this mitigation program. Precautionary measures are included to prevent impacts to streambed resources. Finally, mitigation measures that address general biological resources protection are provided. These general measures apply to all the protected species during construction of the Proposed Project.

A Project Biologist will be identified to work with the County on the implementation and oversight of these mitigation measures.

9.9.2.1 Mitigation Measures for the Coastal California Gnatcatcher/Listed Species

Pre-Construction Measures

The following measures will assist in avoiding and minimizing indirect construction related impacts on the California gnatcatcher.

- B-1 Prior to issuance of each grading permit for any site preparation, clearing, grubbing, or grading within 500 feet of potential gnatcatcher habitat, the County will provide for pre-construction gnatcatcher surveys conducted by a qualified biologist to update their presence/absence status and location in relationship to the construction limits and activities.
- B-2 Prior to issuance of the applicable grading permit, the County will provide for the mapping of special interest species and habitats within 500 feet of the project limits on the grading plans by a qualified biologist. California gnatcatcher habitat and other native habitats outside the construction limits will be designated on the grading plans and construction documents as Environmentally Restricted Areas (ERAs). ERAs are defined as areas that are permanently restricted to any unauthorized access or activities during construction. These ERAs will be marked on all construction documents.
- B-3 Prior to issuance of the applicable grading permit for areas in proximity to the Habitat Reserve and the Wildlife Habitat Area, especially where adjacent to gnatcatcher habitat, the County will prepare landscape plans/guidelines to avoid any potential indirect impacts associated with invasive weeds and plant material. These plans/guidelines will be reviewed by the Director of the Orange County Nature Reserve.
- B-4 Prior to issuance of each grading permit for any site preparation, clearing, grubbing, grading, building demolition or phase of the project, focused supplemental surveys will be conducted for listed species, including those not presently identified in this EIR, that may potentially occur within areas impacted by the project. Listed species are those designated as endangered or threatened by state and federal resource agencies. The focused, pre-construction surveys will be conducted by qualified biologists who possess any required permits, as designated by the resource agencies.

If the presence of such species is documented during the pre-construction surveys, and potential project impacts are considered to be significant, a mitigation plan will be developed. The mitigation plan will incorporate measures that will substantially reduce project impacts on occupied habitat through such methods as avoidance of occupied habitat or project phasing to avoid breeding periods. A monitoring plan may also be designed to ensure successful implementation of mitigation measures.

Construction Measures

The following mitigation measures will avoid or substantially minimize direct and indirect construction related impacts on the California gnatcatcher.

- B-5 If active nest sites are found during the preconstruction surveys, the County will require all construction contractors to phase all site preparation, grading, clearing, grubbing, and construction activities within 500 feet of habitat occupied by nesting gnatcatchers to allow for the completion of nesting and breeding activities (approximately mid-February through mid-August). The implementation of this measure will be overseen and conducted by a qualified biologist.
- B-6 During all site preparation, grading, clearing, grubbing, and construction activities, the County will require all construction contractors to limit movement related to construction activity, including ingress and egress of equipment and personnel, to the designated construction limits in areas within 500 feet of habitat occupied by the California gnatcatcher.

9.9.2.2 Mitigation Measures for Raptors

Pre-Construction Measures

The following measures will assist in avoiding and minimizing direct and indirect construction related impacts on any nesting raptor species.

- B-7 Prior to any site preparation, clearing, grubbing, or grading within 1,000 feet of potential raptor nest sites, the County will require that raptor nesting surveys be conducted by a qualified biologist to determine the potential presence and location of active raptor nests in relationship to the construction limits and activities.
- B-8 The County will require that all active raptor nests within 1,000 feet of the construction area limits be mapped on construction documents by a qualified biologist and designated as Environmentally Sensitive Areas (ESAs) prior to any site preparation, clearing, grubbing, or grading. An ESA is defined as an area temporarily restricted from any unauthorized construction access or activities.

Construction Measures

- B-9 As a condition of the ESA, the County will require all construction contractors to temporarily restrict/prohibit all construction related activities within 1,000 feet of active nests to avoid potential impacts on raptor nesting activities. The majority of raptor breeding activity typically occurs between February 15 and July 15. The County will require that nesting sites be resurveyed toward the end of the breeding season to verify completion of the breeding cycle. The ESA designation will be removed by the County after the nesting activities are complete.

9.9.2.3 Mitigation Measure for Streambeds

- B-10 During final design, the County will provide for the mapping of jurisdictional waters and jurisdictional wetlands for San Diego Creek, Serrano Creek, Borrego Wash, and portions of Agua Chinon Wash designed to be retained. These jurisdictional limits will be designated on the grading plans and construction documents as Environmentally Restricted Areas (ERAs). ERAs are defined as areas that are permanently restricted to any unauthorized access or activities during construction. These ERAs will be marked on all construction documents.
- B-11 During final design, the County will modify the Runway 16L plan to shorten the “declared distance” by an estimated 200 feet. This shortening of the declared distance will allow the existing Borrego Wash and channel to be retained at its current location and configuration. This action will also allow the perimeter road to be retained such that there are no adverse impacts to Borrego Wash or improved portions of the channel.
- B-12 During final design, the County will modify the grading limits near the Agua Chinon channel, south of Runway 7R/25L and retain the southerly portion for an estimated length of 400 feet. The portion of the channel to be retained will include the cross section of the ordinary high water mark within the Army Corps of Engineers jurisdiction.
- B-13 During final design of the golf course and the Wildlife Habitat Area, the County will incorporate Serrano Creek and its tributaries into the Wildlife Habitat Area and golf course design and designate them as ERAs, as referenced in Mitigation Measure B-10.

9.9.2.4 General Biological Resources Mitigation Measures

- B-14 The County will show and define all designated ERAs and ESAs on project construction documents. Restrictions related to construction activities near ERAs will be described. Restrictions related to when construction can and cannot be conducted in and near ESAs will be described. The County will require all construction contractors to comply with all ESA and ERA designations during all site preparation, grading, clearing, demolition, hazardous materials remediation, grubbing, and construction activities.
- B-15 Prior to any hazardous materials remediation, site preparation, grading or construction, the County will conduct orientation meetings for all construction personnel. These meetings will identify protected species in the project area, any defined ESAs and ERAs and restrictions related to them, and other information relative on the avoidance of impacts to protected species during construction.
- B-16 The County will require all project contractors to maintain and operate all construction equipment in good working order and consistent with the manufacturer’s specifications for noise control and management. The County will require all project contractors to document that all equipment used for site preparation, grading, demolition, clearing, grubbing, and hazardous materials remediation meets the manufacturers' noise specifications.

9.9.2.5 Cumulative Biological Resources Mitigation Measures

Based on the Cumulative Impact Analysis (Section 5.4.9), the following mitigation measure will avoid or substantially minimize cumulative impacts for the Alton Parkway Extension:

B-17 The County is the lead agency for a redesign of Alton Parkway. It will redesign the extension to minimize biological impacts to one acre or less of Waters of the U.S. and jurisdictional wetlands impacts.

9.10 MITIGATION RELATED TO PUBLIC SERVICES AND UTILITIES

9.10.1 Final EIR No. 563 Mitigation Measures

PSU-1 Concurrent with construction level environmental documentation, the County of Orange will coordinate with all utility and service providers including but not limited to, those identified below regarding the provision of needed services and utilities for the project. Each of these utility and service providers is subject to applicable internal regulations and local, state and, in some cases, federal statutes and regulations. In compliance with these regulations, arrangements will be made with each provider for needed services and utilities prior to implementation of the relevant phases of the project, thus avoiding any significant adverse project impacts.

Orange County Sheriff's Department
Orange County Fire Authority
Orange County Public Library System
Orange County Transportation Authority
Cable Television Services
Irvine Unified School District
Integrated Waste Management Department
Pacific Telephone
Southern California Edison
Southern California Gas Company
Irvine Ranch Water District

Relationship to DEIR No. 573: This mitigation measure was partially satisfied in the preparation of Section 4.10 of EIR No. 573 (coordination regarding provision of services and utilities). The remainder of the measure (arrangements prior to implementation) has been updated to reflect the current stage of planning. As revised, the measure is replaced by Mitigation Measures PS-1 through PS-5 and U-1 through U-4. Therefore, Mitigation Measure PSU-1 is no longer applicable.

9.10.2 Additional Mitigation Measures

- PS-1 The County of Orange will provide an area within the OCX terminal for a County Sheriff facility.
- PS-2 The County of Orange will comply with CCR, Title 27, by considering any potential effect of birds on aircraft in planning for the Proposed Project, as described in Section 4.15, Public Safety.
- PS-3 The County of Orange will develop a waste reduction plan for the waste generated from demolition and construction of new facilities and operation of the Proposed Project in order to comply with State law ABA 939 prior to the commencement of construction for each phase.
- U-1 During final design, existing utilities will be marked on the project plans as to whether each facility will be protected in place, removed or expanded/modified during construction. This will include all cable television, communications services, electrical, fuel, natural gas, domestic water, recycled water and waste water utility facilities on or immediately adjacent to the project site.
- U-2 Prior to any site preparation, grading or construction, the County will require all project contractors to contact a universal service alert organization. The purpose of this coordination will be to identify/verify the depth, height and location of existing utility facilities and notification procedures in the event of either a temporary disruption of service or accidental damage to a facility. This will include providers of cable television, communications services, electrical, fuel, natural gas, domestic water, recycled water and waste water facilities and services on and immediately adjacent to the project site.
- U-3 During final design, the County will coordinate with the appropriate service providers to ensure that planned project connections to the off-site distribution/collection systems are acceptable to the providers. This coordination will specifically address cable television, communications, electricity, natural gas, domestic water, recycled water and waste water service providers.
- U-4 During final design, the County will coordinate with The Irvine Company on identifying options to protect in place/relocate the existing wells and pipelines owned and operated by The Irvine Company on the project site. The requirements agreed to for the protection, relocation and/or reconstruction of these facilities will be documented in the project construction plans.
- PS-4 During final design for each phase of construction, the County will review the proposed transit facilities in Table 4.10-6 with OCTA to coordinate implementation of transit facilities with bus route programming and rail services. The County will obtain an agreement with OCTA, City of Irvine and rail agencies for the design of the proposed connection to ITC prior to the commencement of construction.

PS-5 Prior to approval of the Airport System Master Plan, the County will prepare a Fiscal Impact Report (FIR) analyzing the public facilities and services costs and revenues of the Proposed Project, including the effects on fire protection and emergency services. The FIR will be prepared in conformance with the County's FIR standards and policies. If the FIR concludes that there are negative fiscal impacts after mitigation on any facility or service, the FIR will recommend financing mechanisms, including but not limited to developer fees, assessment district financing, and/or tax increment financing (in the event of a redevelopment project area being created), for approval by the Board of Supervisors.

9.11 MITIGATION RELATED TO NATURAL RESOURCES AND ENERGY

9.11.1 Final EIR No. 563 Mitigation Measures

NRE-1 The California Code of Regulations (CCR) requires developers to incorporate features in building that are designed to be energy efficient, consistent with the recommendations of the affected utility companies and the specific requirements of Title 24 CCR "Energy Building Regulations." These regulations would apply to the development on the MCAS El Toro site, and would reduce all potential impacts of the reuse alternatives related to energy resources to below a level of significance.

Relationship to EIR No. 573: The requirements of Mitigation Measure NRE-1 are fulfilled by the Proposed Project Airport System Master Plan which requires that all buildings are designed to be energy efficient, consistent with the recommendations of the affected utility companies and the specific requirements of California Code Regulations Title 24 (24 CCR), "Energy Building Regulations."

9.11.2 Final EIR No. 563 Supplemental Analysis Mitigation Measures

Of the eight mitigation measures analyzed in the Final EIR No. 563 SA, two were determined to be feasible in terms of reducing the conversion of prime agricultural land to urban uses with implementation of the CRP. The implementation of these mitigation measures would not reduce the CRP significant impact on agricultural lands to less than a significant level. Therefore, the CRP impact upon prime agricultural land would remain an unavoidable significant impact.

The following mitigation measures were identified in Final EIR SA to provide partial reduction of the CRP impact to converting prime agricultural land to urban uses:

NRE AG-1 The County, acting as the LRA for MCAS El Toro, shall use its best efforts to secure the conveyance of 40 acres of existing prime agricultural land on MCAS El Toro from the Department of Navy for the benefit of the Orange County Sheriff-Coroner. The 40-acre conveyance will be used by the Orange County Sheriff-Coroner for permanent agricultural use in conjunction ~~conjunction~~ with the

County's existing jail agricultural program at the James A. Musick Jail Facility. As a direct result of this mitigation, the conversion of prime agricultural land resulting from implementation of the Community Reuse Plan would be reduced from approximately 818 acres to 778 acres.

- NRE AG-2 As part of the interim reuse phasing strategy, the County, acting as the LRA for MCAS El Toro, will use its best efforts to continue to make available for lease the acreage currently in agricultural use on the MCAS El Toro site. This action will help compensate for the adverse economic impact resulting from base closure, and provide a revenue stream to maintain the base property until project buildout. The County will continue to make agricultural lands available for lease as long as the interim uses are consistent with the uses contemplated in the Community Reuse Plan, and as long as those uses do not compromise the County's ability to implement the Community Reuse Plan in a timely manner. However, interim agricultural use would not be allowed for a period longer than 10 years.

Relationship to EIR No. 573: Final EIR No. 563 Supplemental Analysis Mitigation Measures NRE AG-1 and NRE-AG-2 will be implemented on an ongoing basis with implementation of the Proposed Project.

9.12 MITIGATION RELATED TO AESTHETICS, LIGHT AND GLARE

9.12.1 Final EIR No. 563 Mitigation Measures

Although there are no identified significant aesthetic impacts resulting from implementation of the Proposed Project, the following precautionary mitigation measures identified in FEIR No. 563, as amended, are appropriate to be included as precautionary measures.

- AES-1 As appropriate, all buildings will be designed and constructed using materials to reduce glare and, when possible, will be painted in warm earth tone colors, grays, blues and similar colors which reduce glare.

Relationship to DEIR No. 573: This measure has been updated to reflect the current stage of planning. As revised, the measure is replaced by Mitigation Measure AES-3.

- AES-2 Prior to approval of final site design, the County of Orange will ensure that all exterior light fixtures on the MCAS El Toro site will be the direct cut-off type of fixture with shields, non-glare bulbs, and frosted light shields, as necessary and appropriate, to reduce light spillage on and off the development site, particularly for uses adjacent to the Wildlife Habitat Area.

9.13 MITIGATION RELATED TO CULTURAL RESOURCES

9.13.1 Final EIR No. 563 Mitigation Measures

- CR-1 Concurrent with, or prior to, construction level environmental documentation, the County will ensure that a cultural resources inventory of the MCAS El Toro site will be conducted to determine whether there are any potentially NRHP eligible Cold War era structures and/or supporting features on the site and if any structures are architecturally significant. The survey will include recommendations regarding the management of any documented NRHP eligible structures.

This mitigation measure has been implemented, and no further action is required regarding the cultural resources inventory. None of the buildings or structures at MCAS El Toro qualify for listing on the National Register.

- CR-2 Concurrent with, or prior to, construction level environmental documentation, the County will ensure that a report of the literature and records search and the field survey will be prepared. Mitigation may be required depending on the recommendations of this report. The report recommendations may include further testing, artifact collection, pre-grading salvage, and/or monitoring during soil disturbance. The report recommendations would be implemented during final design and grading, as appropriate.

This mitigation measure has been implemented, and no further action is required regarding a literature and records search and field work.

- CR-3 Concurrent with, or prior to, construction level environmental documentation, the County will determine the need for a paleontological resources report for the MCAS El Toro site. The report recommendations would be implemented during final design and grading, as appropriate.

The County has determined that further study of the paleontological resources on the site is not required at this time and that implementation of County Standard Condition of Approval No. A7 will be recommended for approval as a precautionary measure.

9.14 MITIGATION RELATED TO RECREATION

9.14.1 Final EIR No. 563 Mitigation Measures

FEIR No. 563 did not prescribe any specific mitigation measures for recreation. Mitigation Measure LU-1 in the Land Use Section was cross referenced for mitigation of project consistency with the County of Orange General Plan Resources Element.

9.14.2 Additional Mitigation Measures

R-1 Prior to the approval of design plans, specifications, and estimates (PS&E) for off-site roadway improvements, the County shall prepare a Construction Action Plan. The Construction Action Plan shall set forth appropriate construction practices necessary to minimize the potential disruption to properties, pedestrians, bicyclists, and motorists. The following items shall be included in the Plan:

- **Public Notice:** Signs providing advance notice of work to be done on a particular segment shall be posted for a period of two weeks prior to construction. Notification in a local newspaper shall be published two weeks prior to construction. Adjacent property owners and public service providers and utility companies shall also be notified two weeks prior to construction.
- **Traffic Routing:** Signs shall be provided to route vehicular and bicycle traffic through segments under construction. In addition, signs that suggest possible alternate routes shall be posted. Construction vehicle access to construction sites shall occur at off-peak traffic hours. Construction vehicle access routes shall be directed around residential areas. In addition, traffic control personnel shall be provided as necessary to mitigate traffic congestion and to mitigate the impact to arterial service levels during construction in accordance with local, State, and federal standards.
- **Construction Staging:** Storage of construction vehicles, equipment, and materials shall not occur in the immediate vicinity of residential areas and retail establishments.
- **Hours of Construction:** Hours of construction shall conform to established County policy unless otherwise approved by the County.
- **Access to properties:** Construction activities shall be arranged so that access to properties will be maintained.

9.15 MITIGATION RELATED TO PUBLIC SAFETY

Mitigation Measure GPC-1 already proposes that the Airport Land Use Commission adopt an AELUP for the ASMP project at El Toro. The revisions to the AELUP should reflect the standards for civilian aviation use of the MCAS El Toro property, which will result in different accident risk and building height limitations in the surrounding communities than experienced with military activity.

AELUP-consistent General Plan Amendments are proposed as part of the Proposed Project. Surrounding cities with jurisdiction over areas included in the OCX AELUP study area should also adopt the land use guidelines described here in their General Plans in order to achieve the required statutory consistency.

9.16 MITIGATION RELATED TO HAZARDOUS WASTES AND HAZARDOUS MATERIALS USE

9.16.1 Final EIR No. 563 Mitigation Measures

- HM-1 Prior to accepting the MCAS El Toro property on which the presence of asbestos containing materials (ACMs) has been identified, the County of Orange or other transferee must ensure that all available information concerning ACMs has been provided, including the following:
- i) information regarding the type, location, and condition of ACMs
 - ii) the results of any asbestos testing
 - iii) description of asbestos control measures taken, if any
 - iv) information regarding the costs or time necessary to remove existing ACMs
 - v) the results of any site-specific asbestos inventory updates
- HM-2 Prior to major renovations and/or the demolition of any structure(s) known to contain ACMs, the County of Orange or other transferee must ensure that all asbestos is removed and disposed of in accordance with applicable federal, state and local regulatory requirements. Of primary concern is South Coast Air Quality Management District (SCAQMD) Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities).
- HM-3 Prior to the renovation or demolition of any structure constructed prior to October 1988, an asbestos survey must be conducted if the presence of ACMs is unknown. Asbestos in structures that will be retained for future uses must be managed according to an Operations and Maintenance (O&M) Plan to reduce the potential for fiber release and possible human health hazards.

HM-4 Prior to accepting the Wherry Housing and Saddleback Terrace/Vista Terrace Housing communities from the Navy, the County of Orange or other transferee shall ensure that all lead hazard abatement has been conducted. All abatement activities must be conducted in accordance with applicable federal, state, and local regulatory requirements.

The Proposed Project does not contemplate any residential uses on the site or reuse of any residential units.

HM-5 Prior to accepting any other residential property from the Navy, the County of Orange or other transferee shall ensure that lead-based paint and lead hazard surveys have been conducted for those properties. For properties that have been surveyed, the County of Orange or other transferee shall obtain all inspection and survey results and shall ensure that the survey reports contain sufficient data to adequately assess potential lead hazards. The County of Orange or other transferee must ensure that the appropriate lead-hazard information has been received, and that the property transfer contract contains a lead warning statement.

The Proposed Project does not contemplate any residential uses on the site or reuse of any residential units.

HM-6 If the County of Orange or other transferee agrees to conduct all required renovation and/or lead-based paint abatement activities on residential units at MCAS El Toro, these activities must be conducted in accordance with all applicable federal, state, and local regulatory requirements.

The Proposed Project does not contemplate any residential uses on the site or reuse of any residential units.

HM-7 Concurrent with construction-level environmental documentation, the County of Orange will ensure that mitigation is identified, as appropriate, related to the requirements of the National Pollutant Discharge Elimination System (NPDES) General Construction Activities Stormwater permit administered by the Regional Water Quality Control Board, Santa Ana Region. Permit coverage must be obtained prior to beginning construction.

Relationship to EIR No. 573: This mitigation is replaced by Mitigation Measure WQ-4 in Section 4.8 Hydrology and Water Quality. This permit requirement is carried forward to the construction phase of the project.

9.16.2 Additional Mitigation Measures

Due to the nature of hazardous material and hazardous waste regulations, proposed land uses that involve the use, storage, handling, and/or disposal of hazardous materials or waste will be subject to all applicable federal, state, and local environmental regulations. These regulations are implemented by numerous government agencies as previously discussed. Each agency has established regulations regarding the proper management of hazardous materials and hazardous waste for specific operations and activities. The following mitigation is proposed to ensure compliance with these regulations and to reduce potential adverse impacts of the Proposed Project to below a level of significance.

- HM-8 The County shall require that monitoring for the presence of combustible gases, such as methane, shall be conducted by operators during all underground work conducted within 1,000 feet of the landfill refuse boundary and that, if gas levels exceed federal, state, or local standards, such a work shall cease until the gas levels have been remediated by the responsible agency or operators.
- HM-9 Prior to approval of permits for construction of new underground storage tanks, oil/water separators and associated piping systems, the County shall ensure that the facility's design complies with applicable requirements pertaining to underground storage tank systems. At a minimum, these tanks shall be double walled and have overflow protection and leak detection systems with remote leak alarm monitoring.
- HM-10 Prior to issuance of permits for aboveground storage tanks, County shall require all AST operators to ensure that all aboveground tank system design includes appropriate secondary containment with no less than 110 percent of the tank capacity.
- HM-11 Prior to issuance of permits for fuel storage areas, including aboveground tanks, County shall require all AST operators to ensure that runoff from all fuel handling facilities drains to an oil/water separator with stormwater samplers and monitors.
- HM-12 Prior to issuance of permits for aboveground storage tanks, County shall require all AST operators to ensure that all aboveground tank systems comply, at a minimum, with the standards of the American Petroleum Institute (API).
- HM-13 Prior to the issuance of permits for fuel hydrant piping systems, County shall require all AST operators to ensure that these systems have double wall construction, a leak detection system, and remote leak alarm monitoring as required by existing regulations.
- HM-14 Prior to issuance of permits for future fuel farm facilities at the MCAS El Toro site, the County shall ensure that these facilities have a self-contained fire suppression system, including such features as foam cannons and above and below tank foam injection systems as required by existing regulations.
- HM-15 Prior to installation of USTs, the County shall ensure that all UST operators obtain proper permits for all future USTs from the Orange County Health Care Agency, RWQCB, SCAQMD, and Orange County Fire Authority.

- HM-16 The County shall ensure that all fuel operators provide documentation of all fueling and maintenance facilities and activities involving hazardous materials to the Orange County Fire Authority prior to their construction and operation.
- HM-17 The County will require all operators (or operating agencies) of facilities storing fuels and hazardous materials to prepare Emergency Response Plans and submit Hazardous Materials Disclosure Forms to the Orange County Fire Authority as required by the agency, prior the issuance of permits for these facilities.
- HM-18 Prior to commencement of uses, all BTP tenants shall be required by the County to implement any of the Mitigation Measures HM-1 through HM-17 that are applicable to their use of leased property on the base, unless by agreement, the County or DON or other agency otherwise ensures compliance.
- HM-19 Prior to issuance of grading permits, the County shall incorporate final design and site plan features which ensure that any site runoff will be directed away from IRP landfill Sites 3 and 5.
- HM-20 The County shall require all operators (or operating agencies) of facilities using and/or storing hazardous materials to maintain a current hazardous waste generator number for the facility as a term of lease.
- HM-21 The County shall not allow any permanent storage of hazardous waste on the site by any operator (or operating agency) as a term and condition of their lease.
- HM-22 The County shall require all operators (or operating agencies) of facilities using and/or storing hazardous materials to provide to the County disclosures of hazardous materials inventories, and proof of acquisition of necessary permits and compliance with applicable plans pertaining to hazardous materials storage and use and hazardous waste generation and disposal as a term and condition of their lease.
- HM-23 The County shall require all operators (or operating agencies) of facilities storing fuels and conducting fueling activities to receive FAA-approved training from the fire department.
- HM-24 The County shall ensure that all activities proposing to use hazardous materials or generate and dispose of hazardous waste provide all applicable information concerning the nature of these activities to the Certified Unified Program Authority (CUPA) through the use of the Unified Program Consolidated Form.
- HM-25 The County shall ensure that no development on IRP Sites 3, 5, 8, 11, and 12 or development within 1,000 feet of Sites 3 and 5 occurs until appropriate remedial action has been implemented. The County will also ensure that no construction occurs on Site 16 until appropriate remediation has occurred. Finally, if FFA signatory review determines potentially significant impacts to the project could occur from Site 7 or Site 14, the County will ensure that no construction occurs on the site until appropriate remedial action has been implemented.

- HM-26 The County shall provide notification and disclosure regarding existing hazardous waste conditions and the presence of regulated materials to all leasehold tenants at OCX.
- HM-27 The County shall require all leasehold tenants to submit hazardous waste manifests annually to OCHA for review to ensure that materials have been taken off-site and recycled properly.
- HM-28 The County shall ensure that all monitoring wells are accommodated through grade adjustment of the wellheads.
- HM-29 The County shall ensure, through lease agreements, that all leasehold tenants use registered persons/firms for application of fertilizers and pesticides.
- HM-30 The United States Department of the Navy should fully implement its Base Cleanup Plan and comply fully with its statutory obligations to remediate the MCAS El Toro site.

9.17 MITIGATION RELATED TO SOCIOECONOMICS

9.17.1 Final EIR No. 563 Mitigation Measures

- SE-1 If the Proposed Project is adopted, the County of Orange will submit updated employment, population, and housing growth forecasts for the project site to SCAG for their next scheduled update of regional growth forecasts that reflect the level of activity anticipated under the Proposed Project.

9.18 MITIGATION RELATED TO RISK OF UPSET

9.18.1 Additional Mitigation Measures

- RU-1 Prior to commencement of aviation flight operations, the County shall make every reasonable effort to lease or otherwise obtain appropriate agreement and/or approval for the use of the Norwalk Pipeline and Santa Fe Pacific Pipeline Line Section 126 (LS-126) for the purpose of conveying all jet fuel to the MCAS El Toro site. The objective of this measure is to obviate the need for and eliminate the adverse impacts associated with highway truck transport of jet fuel.
- RU-2 At any such time that the County becomes the owner of the Norwalk pipeline, the County or its agents will inspect the pipeline on a regular basis to conform to the standard practice in the industry, will take corrective action to remedy any leaks, ruptures, or other hazards caused by the pipeline, and will pay any damages as required by law that are deemed by the appropriate authority to be the liability of the County.

9.19 MITIGATION RELATED TO CUMULATIVE IMPACTS

- T-12 Prior to issuance of the first building permits for each phase of the Airport System Master Plan development, the County will determine if the phase's traffic plus cumulative development traffic requires any improvement listed in Tables 5.4-2 and 5.4-3. If any improvement is required, the County will enter into a cooperative agreement with the lead local jurisdictions responsible for the cumulative development impacts to participate on a fair share basis in the implementation of the planned and unplanned long-range circulation improvements listed in Table 5.4-2 and 5.4-3. The agreements will commit the County to participate in the implementation process (i.e., the establishment of funding mechanisms, the preparation of design plans, the performance of feasibility assessments, etc.) based on the project fair share percentages identified in Tables 5.4-2 and 5.4-3. Where the County is the lead, the County will prepare cooperative agreements and use its best efforts to obtain fair share participation by non-lead local jurisdictions.
- T-13 Prior to issuance of the first building permits for the Airport System Master Plan Development, the County will use its best efforts to obtain a cooperative agreement with the applicable lead jurisdictions to process amendments to the Orange County Master Plan of Arterial Highways (MPAH) as appropriate through the Orange County Transportation Authority (OCTA) for the unplanned long-range circulation improvements listed in Table 5.4-3 [i.e., Moulton Parkway and Laguna Canyon Road] with the County's participation in the MPAH process being based on the project fair share percentages identified in Table 5.4-3.

Note: Pursuant to CEQA Guidelines Section 15091(a)(2), portions of these measures are within the responsibility and jurisdiction of another public agency, and not the County of Orange.

Mitigation Measure B-17, listed earlier in Biological Resources, applies to cumulative impacts.

9.20 STANDARD CONDITIONS

The following standard conditions are incorporated in the Proposed Project:

<u>A4</u>	<u>Archaeology Grading Observation and Salvage</u>
<u>A7</u>	<u>Paleontology Resource Surveillance</u>
<u>D1</u>	<u>Drainage Study</u>
<u>D2</u>	<u>Drainage Improvements</u>
<u>D3</u>	<u>Off-Site Drainage</u>
<u>D4</u>	<u>Master Plan of Drainage</u>
<u>D5</u>	<u>Elevation Certificates and Finished Floor Elevations for Floodplains</u>
<u>D6</u>	<u>Subordination of Easements</u>
<u>D7</u>	<u>Regional Facility Improvements</u>
<u>D8</u>	<u>Firm Map Revisions for Floodplains</u>
<u>D9</u>	<u>Floodplain Easements</u>

EP1	Federal Endangered Species Act
FD1	Underground Storage Tanks
FD2	Uniform Fire Code Implementation
FD3	Waste Disposal
FF4	General County Facilities
FP1	Fire Hydrants
FP2	Water Availability
FP4	Fire Access Roads
FP5	Street Markings
FP6	Traffic Signal Preemption Devices
FP7	Fire Hazard Notification
FP8	Fuel Modification
FP9	Access Gates
FP10	Combustible Construction Letter
FP11	Hazardous Materials
FP12	Combustible Gas Mitigation
FP13	Building Use Letter
FP14	Architectural Building Plans
FP15	Fire Suppression System
FP16	Fire Alarm System
FP17	Storage Tanks
<u>G1</u>	<u>Geology Report</u>
<u>G2</u>	<u>Grading Deviation</u>
<u>G3</u>	<u>Financing/Conveyance Tentative Maps</u>
<u>G4</u>	<u>Off-Site and Cross-Lot Grading/Drainage</u>
<u>G5</u>	<u>Vector Control Measures</u>
<u>G6</u>	<u>Preliminary Soils Report</u>
<u>G7</u>	<u>Final Soils Report</u>
HM1	Hazardous Materials
N1	Residential Noise
N2	Non-Residential Noise
N3	Overflight Notification
N4	Department of Real Estate Report Information
N5	Aviation Easement
N6	Aircraft Noise Signs
N7	Noise Generating Equipment
N8	Multi-Family Dwelling Units
N9	Construction Noise
N10	Transportation Corridor Notification
RC1	Uniform Fire Code Implementation
RC2	Waste Disposal
SW1	Solid Waste Collection Areas
<u>WQ1</u>	<u>Pollutant Runoff</u>
<u>WQ2</u>	<u>Pollutant Runoff</u>
<u>WQ3</u>	<u>Chemical Management</u>
<u>WQ4</u>	<u>NPDES General Stormwater Permit</u>

10.0 ENVIRONMENTAL EFFECTS FOUND NOT TO BE SIGNIFICANT

CEQA Guidelines Section 15128 states an EIR “shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR. Such a statement may be contained in an attached copy of an initial study.”

The EIR addresses a full range of factors and issues. No topics or factors were eliminated from discussion in the EIR as a result of an Initial Study or other analysis.

11.0 SUPPLEMENTAL PHASING ANALYSIS

11.1 INTRODUCTION

The Proposed Project analyzed in Draft EIR No. 573 is anticipated to be built out over a twenty (20) year period, with projected completion by approximately 2020. Consistent with traditional airport master planning practice, Draft EIR No. 573 defines and analyzes the Proposed Project as occurring in incremental five-year “phases,” defined as follows:

Phase 1 - EIR Certification (2000) to 2005

Phase 2 - 2006 to 2010

Phase 3 - 2011 to 2015

Phase 4 - 2016 to 2020

[Note: The actual calendar year during which each phase would occur is dependent upon the actual start date of airport related operations and/or construction.]

At the Phase 2 level of completion, the Proposed Project would serve a forecast commercial passenger activity level of 18.8 million annual passengers (“MAP”); at Phase 4 build out, the Proposed Project would serve a forecast commercial passenger activity level of 28.8 MAP. Draft EIR No. 573 identifies those impacts associated with build out of the Proposed Project to the Phase 4 level, as well as those impacts anticipated to occur with each phase of the Proposed Project development. One of the specific purposes of Draft EIR No. 573 in providing this phasing analysis is to afford maximum flexibility to the Board of Supervisors in the scope of project implementation and approval. (Draft EIR No. 573 p. 3-2.)¹

Consistent with that purpose, this supplemental phasing analysis, in conjunction with the information presented in Draft EIR No. 573, as supplemented, provides the information necessary for the Board of Supervisors and the public to fully understand the Proposed Project both at the Phase 4 level and at the Phase 2 level.

This supplemental analysis, which is to be read in conjunction with the information previously provided in Draft EIR No. 573, presents a summary of the information provided in Draft EIR No. 573 relative to a description of the project and its impacts at the Phase 2 level of implementation, supplemented by additional information where applicable.

¹ All page references are to Draft EIR No. 573 (December 1999), unless otherwise noted.

11.2 DESCRIPTION OF THE PROJECT AT PHASE 2

A description of the Draft EIR No. 573 Proposed Project is provided in Chapter 3.0 at pages 3-1 through 3-68. The Proposed Project consists of various actions related to the approval, adoption, and implementation (including construction and operation) of two plans: (1) an Airport System Master Plan for Orange County (ASMP) (published separately as, Draft, *Airport System Master Plan for John Wayne Airport and Proposed Orange County International Airport* (December 1999)), and (2) a Base Transition Plan (BTP) for former Marine Corps Air Station (MCAS) El Toro ("El Toro" or "the base") (published separately as, Draft, *Base Transition Plan* (November 9, 1999). (3-1.)

The BTP allows for some interim reuse of existing buildings and facilities at El Toro until implementation of the ASMP reaches a phase that requires the demolition of a specific facility, or its conversion to the permanent reuse contemplated by the ASMP. Under the BTP, a limited number of uses is scheduled to continue through Phases 3 and 4.

The Airport System Master Plan consists of an Airport Master Plan for a civilian commercial airport at El Toro (El Toro Airport Master Plan) and an Airport Master Plan for John Wayne Airport (JWA) (JWA Master Plan). A detailed list of the anticipated project improvements both at El Toro and JWA is contained in Draft EIR No. 573 Table 3-9.

The JWA Master Plan updates the County's 1985 Airport Master Plan for JWA. Under the Proposed Project, the Phase 4 forecast level of commercial passenger activity at JWA is 5.4 MAP, which is less than is currently served at JWA. The Master Plan Update for JWA does not contemplate any expansion of existing commercial aviation facilities at JWA. Rather, the Master Plan Update projects are intended to expand the general aviation facilities and capacity at the airport. All of the JWA related project components are assumed to be completed by the end of Phase 2 of the Proposed Project. (3-3.)

The El Toro ASMP presented in Draft EIR No. 573 Chapter 3.0 is composed of a large number of phased project components, classified as either aviation or nonaviation uses. The aviation use passenger related facilities contemplated by the Proposed Project are designed to serve a forecast commercial passenger activity level of 28.8 MAP by Phase 4. (3-3.) These facilities include a new terminal building, parking facilities, access roadways, airfield improvements, including aprons and the lengthening of all four runways at El Toro and the relocation of two of the four runways, as well as numerous airport support facilities. The various nonaviation uses planned for portions of the base are compatible with the planned commercial aviation use and would, in some cases, provide revenue support to the civilian redevelopment of the base and the development and operation of a commercial airport at El Toro. The general categories of the various project components, land uses, and improvements contemplated under the El Toro ASMP are summarized in Draft EIR No. 573 Table 3-1 (and listed in Draft EIR No. 573 Table 3-9 in alphabetically designated categories "A" through "Y").

At Phase 2 of the project, El Toro would serve a forecast commercial passenger activity level of 18.8 MAP and 1.18 million tons of cargo. To serve this level of passenger activity, Phase 2 of the project is composed of aviation components similar to those included in Phase 4 of the Proposed Project, although “downsized” to accommodate the reduced MAP levels. Specifically, at the Phase 2 level, the project includes a new terminal building with 44 jet gates, cargo (west) area, parking facilities, access roadways, numerous airport support facilities, and airfield improvements, including aprons and the reconstruction and lengthening of two runways at El Toro and the relocation (construction) of a third runway. (See Supplemental Phasing Analysis Table 3-9A, Summary List of Improvements At OCX And JWA Recommended for Phase 2 of the Airport System Master Plan.)

Thus, Phase 2 of the project differs from the Proposed Project at build out (Phase 4) in three significant respects. First, the Terminal Building will be 1.4 million square feet in size at Phase 2 compared to the Phase 4 terminal of 2.3 million square feet, and will include 44 jet gates versus 62 jet gates. Second, the fourth runway, Runway 7L-25R, would not be constructed until Phase 4. Third, cargo facilities in Phase 2 will be smaller than Phase 4 with a corresponding reduction in cargo handling capacity from 2.01 million tons in Phase 4 to 1.18 million tons in Phase 2. Full build out of the Terminal Building, as well as construction of Runway 7L-25R and additional cargo facilities, is scheduled to occur during Phases 3 and 4 of the Proposed Project. The land area required for aviation uses in Phase 2 is approximately 355 acres smaller than the land area required for aviation uses in Phase 4 (compare Draft EIR No. 573, Table 3-1 with Supplemental Analysis Table 3-1A). At Phase 2, these ±355 acres would not be developed for aviation uses, but rather would continue to be used for ongoing nonaviation uses, including interim uses of existing buildings, facilities, grounds, and agricultural leases. In addition to agricultural leases and golf course lands, Phase 2 includes interim reuse of existing buildings and facilities, including 80,000 sq. ft. of business park and 280,000 sq. ft. of warehouse floor area (Draft EIR No. 573 Table 7-4 Appendix D, Part 1).

With respect to nonaviation uses, at Phase 2 of the Proposed Project the proposed Regional Park and Wildlife Habitat Area are not yet fully developed. In all other respects, nonaviation revenue support uses are fully developed at the conclusion of Phase 2.

Draft EIR No. 573, Figure 3-4 illustrates the proposed development of OCX by phases. Specifically, Figure 3-4 depicts the construction and development scheduled to occur during each phase by means of color coding. In this manner, Table 3-4 provides the reader with a view of the project at the Phase 2 level of implementation.

Table 3-1A

Proposed Project at Phase 2 of Development – Uses/Acreages By Planning Area

LAND USE	PA/PARCEL	ACRES	LAND USE	PA/PARCEL	ACRES
Agriculture	5-1a	37.17	Cargo (west)	4-11a	92.38
Agriculture	3-1b	27.01	Cargo Total		92.83
Agriculture	3-1c	13.03	In-flight Catering	2-12a	8.91
Agriculture	3-1d	0.37	Aviation/Industrial Related	2-12b	43.62
Agriculture	7-1e	61.35	Control Tower	2-12c	4.00
Agriculture Total		138.93	FBO/Corporate Aviation	2-12d	46.27
Golf Course (North)	3-3a	135.26	ARFF	2-12e	4.00
Golf Course (North)	3-3b	51.25	Airline Maintenance	3-12e g	14.01
Golf Course (South)	7-3c	43.18	Ground Services Equipment	4-12h	3.74
Golf Course (South)	7-3d	28.44	Fuel Storage	4-12i	7.80
Golf Course (South)	7-3e	8.80	Aviation Support Total		132.35
Golf Course (South)	7-3f	17.24	Vehicle Maintenance Yard	5-13a	53.84
Golf Total		284.17	Food Distribution Warehouse	5-13b	11.75
Open Space	3-4a	0.78	IRWD Reservoir and Pumping	3-13c	5.73
Open Space	3-4b	0.53	Fire Station	3-13d	1.20
Open Space Total		1.31	California Air National Guard	3-13e	24.05
County Habitat Reserve	3-5b	20.64	Homeless Service Providers	4-13f	28.29
Habitat Reserve Total		20.64	IRWD Facility	7-13g	9.00
Restricted Open Space	8-6a	12.98	Fire Station	4-13h	1.00
Restricted Open Space	8-6b	4.64	Public Facilities Total		134.86
Restricted Open Space	8-6c	68.83	Business Park	7-14a	6.24
Restricted Open Space	8-6d	32.45	Business Park	7-14b	13.41
Restricted Open Space	8-6e	11.42	Business Park	7-14c	34.07
Restricted Open Space	8-6f	16.29	Business Park	7-14d	33.05
Restricted Open Space	7-6g	38.02	Business Park Total		86.77
Restricted Open Space	7-6h	9.14	Roads and Easements		167.30
Restricted Open Space Total		193.77	Roads and Easements		167.30
Marshburn Retarding Basin	5-7	38.87	Ongoing Uses	2-2a	191.79
Retarding Basin Total		38.87	Ongoing Uses	2-2b	73.34
Airfield Total	8-8	1,120.49	Ongoing Uses	2-16	81.53
Airfield Total		1,120.49	Ongoing Uses	3-15a	13.09
Parking	5-9a	20.04	Ongoing Uses	3-15b	29.09
Terminal and Parking	1-9b	422.26	Ongoing Uses	3-15c	42.96
Terminal and Parking Total		442.30	Ongoing Uses	3-15d	18.57
Airport Shuttle Bus Yard	4-10a	12.53	Ongoing Uses	7-15e	14.15
Airport Transportation Center	4-10b	9.34	Ongoing Uses	7-15f	20.22
Transportation Facility Total		21.87	Ongoing Uses	4-12h	9.8
			Ongoing Uses	4-12j	5.45
			Ongoing Uses	4-12i	6.5
			Ongoing Uses	3-11b	56.08
			Ongoing Uses	3-12e	32.40
			Ongoing Uses	3-12f	25.71
			Ongoing Uses	2-12a	8.16
			Ongoing Uses	2-12b	55.87
			Ongoing Uses	2-12d	8.01
			Ongoing Uses	5-9a	43.61
			Ongoing Uses	1-9b	58.84
			Ongoing Uses Total		355.09
			GRAND TOTAL		3,721.95

Note: Code reference is to Land Use Plan figure.

Original Source: The Planning Center

Number of acres shown is approximate.

County of Orange Final EIR No. 573

Supplemental Phasing Analysis

11.2.1 Proposed Project at Phase 2 - OCX Aviation Facility Improvements

Draft EIR No. 573 presents the OCX aviation facility improvements that comprise the ASMP Proposed Project at Section 3.3.1, pages 3-6 through pages 3-16. To the extent such improvements under Phase 2 of the project differ from those described in Draft EIR No. 573 for Phase 4 of the project, such distinctions are illustrated below in an double underline/italicized ~~strikeout~~ format – double underlined text indicates additions; ~~strikeouts~~ indicate deleted text.

The Phase 2 project aviation component includes three ~~four~~ runways, a passenger terminal complex, and supporting facilities for domestic ~~and international~~ passenger service, air cargo, general aviation, and aviation related uses. The passenger terminal complex will be located in Planning Area 1, the northeast quadrant of the airport site, with the primary entry [off SR-133 and the minor entry] at Sand Canyon Avenue and Trabuco Road (Figure 3-6) [unchanged from the original project description]. In addition to the multi-level terminal, this area will include a parking structure, hotel, and other passenger serving facilities, such as car rental facilities.

Phase 2 of the Master Plan improvements at OCX include the following:

- (i) Aviation Facilities and Infrastructure
 - (a) Runway Protection Zone (RPZ) Easements
 - (b) Backbone utility systems
 - (c) Airfield
 - (d) Lighting and navigational aids
 - (e) Terminal apron and remain overnight (RON) aircraft parking
 - (f) Terminal building area
 - (g) Terminal vehicle parking and support areas
 - (h) Terminal access and roadways
 - (i) Non-terminal roadways
 - (j) West cargo area
 - ~~(k) East cargo area~~
 - (l) General aviation area
 - (m) In-flight catering area
 - (n) Air traffic control tower (ATCT)
 - ~~(o) Airport rescue and fire fighting (ARFF) facility~~
 - (p) Aviation industrial and related area
 - ~~(q) Airport maintenance facilities~~
 - (r) Aircraft maintenance area
 - (s) Airport transportation center
 - (t) Airport shuttle bus maintenance facility
 - (u) Fuel delivery, storage and distribution facility
 - (v) Ground support equipment (GSE)
 - (w) Environmental facilities
 - (x) Support systems, facilities and equipment

Phase 2 improvements are listed in Table 3-9A of this Supplemental Analysis, which provides the Planning Area location, phase of development, and the entity responsible for the development. A detailed description of Phase 2 and Phase 4 of the Proposed Project facility improvements is contained in the *Airport System Master Plan for John Wayne Airport and Proposed Orange County International Airport (ASMP)*, December 1999. The ASMP also illustrates the locations and proposed configurations of the facility improvements.

11.2.1.1 Airfield

Phase 2 of the Proposed Project will require the reuse and reconstruction of two existing MCAS El Toro runways (16R/34L and 7R/25L) and the construction of one ~~two~~ new runways (16L/34R and 7L/25R), ~~each of~~ which will parallel its existing counterpart 16R/34L. Construction of a new runways is required because the centerline separation between the ~~both pairs of~~ existing parallel runways is 500 feet, which is ~~200~~³⁰⁰ feet less than the FAA standard for conducting simultaneous visual operations by large aircraft (FAA 1989). Because the separation distance between the existing MCAS El Toro parallel runway ~~pairs~~ does not meet current civilian airport standards for independent simultaneous aircraft operations in clearweather conditions, the ~~each~~ each new runway will be constructed at an offset distance from its parallel twin, sufficient to meet FAA requirements for operation under these conditions. The proposed airfield improvements at OCX would include the following:

- Runway 16R/24L will be reconstructed and extended at the north end of existing Runway 16R/34L will be extended by approximately 1,500 feet, and the south end of the runway by approximately 900 feet, to an overall length of approximately 12,400 feet.
- New Runway 16L/34R will be constructed at a centerline separation of 800 feet from existing Runway 16R/34L. The overall length of the new runway will be approximately 12,100 feet.
- To meet FAA criteria for new runway longitudinal gradient (slope), the central portion of existing Runway 7R/25L will be overlain with a new surface, its eastern end will be lowered, and its western end raised. In addition, the western end of 7R/25L will be extended by approximately 1,150 feet to a total length of 9,150 feet.
- ~~A new Runway 7L/25R, 9,150 feet in length, will be constructed at a centerline separation of 700 feet from existing Runway 7R/25L, with a gradient similar to that of reconstructed Runway 7R/25L.~~
- For each runway, new parallel taxiways and associated exit taxiways will be constructed.

11.2.1.2 Terminal Building Area

The proposed terminal development will consist of a three-level main terminal building with ~~four~~ six two-level pier concourses. The terminal will be served by a three-level road and curb system and a multi-level parking garage connected by pedestrian bridges and underpasses to the terminal.

Figure 3-7 illustrates the proposed terminal development. A conceptual rendering of the terminal area is shown in Figure 3-8. A conceptual cross section shown on Figure 3-9 illustrates the three-level terminal building and road system. The pedestrian bridge and underpass connection between the terminal and multi-level parking garage are also shown.

11.2.1.3 Cargo Facilities

~~One~~ Two sites at OCX (~~one in Planning Area 3 and one in Planning Area 4~~), totaling ~~79~~ 180 acres, has ~~have~~ been identified for air cargo use. ~~Together~~ The sites will accommodate ~~21~~ 42 aircraft parking positions, ~~1,040,000~~ 2,040,000 square feet of cargo buildings, ~~163~~ 290 truck docks, ~~106~~ 190 truck staging spaces, and ~~950~~ 1,900 automobile parking spaces at Phase 2 completion. The proposed cargo facility arrangement offers extreme flexibility. The planned design features a contiguous assembly of cargo buildings in the west cargo area and two smaller buildings in the east cargo area. The modularized buildings will accommodate the great diversity of space needs of express, general cargo, and freight forwarding activity. The space will also accommodate United States Customs and the United States Postal Service offices. The building structures may be one- or two-story designs dependent on specific tenant needs for processing and storage areas.

11.2.1.4 In-Flight Catering Area

The site identified for in-flight catering at OCX (refer to [Draft EIR No. 573] Figure 3-1) is located at the northern corner of Planning Area 2. This site will be served by the East Access Road, which will intersect Irvine Boulevard near the site. It will also have a short and direct access route to the terminal area (on the service road) for catering trucks. The in-flight catering site will accommodate ~~two~~ three catering firms, with relatively large-scale operations typical of an international airport. Each site will be approximately 4.7 acres and can accommodate new flight kitchens as large as 100,000 square feet in two levels. Catering facilities will be developed by each of the tenants.

11.2.1.5 Airport Rescue and Fire Fighting (ARFF) Facility

The facility formerly housing the crash/fire/rescue operations at MCAS El Toro is located in Planning Area 4 near the intersection of the runways. The building encompasses 11,440 square feet, has six bays, and was built in 1957. The building is in good condition and will ~~could~~ serve as the OCX ARFF station through Phase 2 of project development. ~~In Phase 3, a new ARFF facility will be constructed in Planning Area 2 on a four-acre site at the intersection of the runways (refer to Figure 3-1). This new facility will have vehicle access from Irvine Boulevard~~

~~by way of the future East Access Road and secondary access streets. The ARFF station will be adjacent to the airport service road and will have direct access to all airfield areas, the passenger terminal, and other airport quadrants via two fire access roads and the taxiway system. The new ARFF facilities will include a 15,700 square foot building.~~

11.2.1.6 Aviation Industrial and Related Area

The site identified for aviation industrial and related facilities at OCX is located south of the in-flight catering area in Planning Area 2. The ~~43~~ 102-acre area will accommodate RON needs through Phase 2 (5 positions ~~16 acres~~), a ten-acre aircraft maintenance site, the ATCT site (four acres), and a variety of potential aviation industrial uses. ~~(72 acres).~~

11.2.1.7 Airport Maintenance Facilities

~~The long-term site for airport maintenance and facilities management will be at the east end of Planning Area 3.~~ Existing office buildings and shops in Planning Area 2 will be used for airport maintenance during Phases 1 and 2.

11.2.1.8 Aircraft Maintenance Area

The primary site identified for aircraft maintenance facilities at OCX (14 ~~45~~ acres) is located west of the airport maintenance area in Planning Area 3. A second smaller site (10 acres) is located in the aviation industrial and related area at the north end of Planning Area 2. The proposed primary aircraft maintenance site will accommodate one ~~three~~ maintenance facility through Phase 2, ~~facilities~~, and the smaller site will accommodate one facility through Phase 2.

11.2.1.9 Airport Transportation Center

The Airport Transportation Center (ATC) will be constructed ~~on seven acres~~ in the southeast corner of Planning Area 4. This site is adjacent to the Southern California Regional Rail Authority (SCRRA) tracks, diagonally across from the Irvine Transportation Center (ITC). The ITC is a multi-modal transit facility providing an interface between rail and bus patrons. Air passengers arriving at the ITC (via public transit, Amtrak or Metrolink) will cross the railroad tracks by means of a pedestrian overcrossing. Shuttle buses operating approximately every five minutes will transport passengers between the ATC and the terminal complex.

11.2.1.10 Fuel Delivery, Storage and Distribution Facility

A bulk fuel storage facility will be located on an 7.7 ~~11~~-acre site in Planning Area 4. The site will have a truck unloading area with 6 ~~11~~ unloading positions (plus additional space for truck staging and spare positions as needed). This fuel storage site would also include three pumps to distribute fuel from the truck unloading positions to the bulk storage tanks, an operations/pump control building, and a building for spill response and supplies. An additional pump and appurtenant pipelines would also be provided for spare pumping capacity as needed. Since fuel delivery by truck would operate on a daily basis, a four to five day fuel supply will

be needed. ~~Three~~ ~~Six~~ 100-foot diameter, 30-foot high, aboveground storage tanks will ~~be~~ provided ~~for~~ a five day supply of fuel in Phase 2.

11.2.1.11 Ground Support Equipment (GSE)

The ~~4.6~~ ~~14~~ acre site identified for ground handling facilities is at the western end of Planning Area ~~4~~ adjacent to the parallel taxiway serving Runway 16L/34R. The site will accommodate ~~one~~ ~~three~~ ground support equipment (GSE) ~~facility~~, ~~facilities~~. West of this site is a proposed ~~location~~ for an electrical substation to serve the GSE. To enhance air quality, GSE operators will be provided with facilities that accommodate vehicles powered by alternative fuels, such as electricity or natural gas.

11.2.2 Nonaviation Revenue Support Uses at Phase 2

Portions of the base are planned for various nonaviation uses that have been selected because, in addition to providing economic, social, and recreational benefits and opportunities to Orange County, they are compatible with the planned commercial aviation use. In some cases, these nonaviation uses provide revenue support to the civilian redevelopment of the base and the development and operation of a commercial airport at El Toro. The nonaviation revenue support uses developed through Phase 4 build out of the project are described in Draft EIR No. 573, Section 3.3.2.

At Phase 2 of the project, the nonaviation revenue support component of the plan includes approximately 1,000 acres on the airport site to be used primarily for a variety of open space, recreation, and agricultural uses. Various public use facilities and a small business park are also included. All of these uses are described in Draft EIR No. 573, Section 3.3.2. A specific listing of the Phase 2 aviation and nonaviation land uses and acreages associated with these uses is included in Table 3-1A.

With respect to nonaviation revenue support uses, there are two primary differences between the Phase 2 and Phase 4 development levels of the Proposed Project. First, at Phase 2 of the Proposed Project, the Regional Park is not yet fully developed; construction and development of the park are scheduled to be completed in Phase 4 (compare Draft EIR No. 573 Table 3-9 and Supplemental Analysis Table 3-9A). The second primary difference is that at the Proposed Project Phase 2 level, the Wildlife Habitat Area is not yet developed. Like the Regional Park, the Wildlife Habitat Area is scheduled for development in Phase 4 (compare Draft EIR No. 573 Table 3-9 and Supplemental Analysis Table 3-9A).

With these two exceptions, the description of nonaviation revenue support uses at Phase 2 is substantially similar to the Proposed Project at build out.

11.2.3 Base Transition Plan at Phase 2

The BTP allows for some interim reuse of existing buildings and facilities at El Toro until implementation of the ASMP reaches a phase that requires the demolition of a specific facility, or its conversion to the permanent reuse contemplated by the ASMP. The buildings that will be reused are within PAs 1 through 4, primarily for interim business park or warehouse use. In PAs 3, 5, and 7, agriculture will also continue as an interim use on 586 acres. The BTP does not provide for interim leasing of buildings for residential uses. The Base Transition Plan, as developed through Phase 4 build out of the project, is described in Draft EIR No. 573, Section 3.3.3.

Draft EIR No. 573 Table 3-2 lists the nonaviation buildings/facilities that the BTP has identified as suitable for interim nonaviation reuse and indicates the planning phase in which each facility would continue as an interim use. The majority of these facilities is located in Planning Area 1 and would be discontinued during Phase 1 of the ASMP. A small number of facilities would continue as interim uses into Phases 3 and 4 of the Project until required for ASMP implementation. At Phase 2 of the project, those BTP uses planned for Phases 3 and 4 would not yet be developed.

11.2.4 Interim Aviation Uses at Phase 2

Existing buildings that are suitable for civilian aviation use are listed in Draft EIR No. 573 Table 3-3. While some are available only for the short-term period before Phase 1 construction is completed, many could be used throughout much of the 20-year planning period. These interim aviation uses would be unaffected at Phase 2 of the project.

The initiation of commercial passenger service, air cargo service, and/or general aviation could occur during Phase 1 but before the Phase 1 improvements are fully completed. During this interim period, existing facilities would be used, perhaps with installation of some temporary facilities.

11.2.5 JWA Facility Improvements for the Proposed Project at Phase 2

Draft EIR No. 573 Section 3.3.5 describes the JWA Facility Improvements for the Proposed Project. As indicated by Table 3-9A, all JWA improvements are scheduled for construction and development during project Phases 1 and 2. Therefore, at Phase 2 all JWA facility improvements scheduled to occur under the Proposed Project will be completed.

TABLE 3-9A

IMPROVEMENTS AT OCX AND JWA RECOMMENDED FOR PHASE 2 OF AIRPORT SYSTEM MASTER PLAN[a]

Description of Proposed Project Improvements (Through Phase 2)	Phase 1	Phase 2	Phase 3	Phase 4	Responsibility	Planning Area
OCX IMPROVEMENTS						
Existing Base	All				County	--
Existing Base	All				County	--
Main collector lines for PA2	22,500 linear feet of main collector system	Additional 22,400 linear feet collector pipelines & sewer laterals for PA2 and PA3			County/Utility Provider	1-4
Main distribution to IRWD line and	36,100 linear feet of main distribution pipelines, connection to Irvine Ranch Water District (IRWD) line and 78 fire hydrants	Additional 15,000 linear feet of distribution pipelines and 21 fire hydrants			County/Utility Provider	1-4
Main distribution lines, and 1 TIC	31,800 linear feet of main distribution pipelines, 41 control stations, and TIC well	Additional 23,800 linear feet of supply pipelines and 35 control stations			County/Utility Provider	1-4
Main and secondary distribution lines, and gas main relocation	35,400 linear feet of main and secondary distribution lines and gas main relocation	Additional 19,400 linear feet of main and secondary distribution pipeline			County/Utility Provider	1-4

**TABLE 3-9A
SUMMARY LIST OF IMPROVEMENTS AT OCK AND JWA RECOMMENDED FOR PHASE 2 OF AIRPORT SYSTEM MASTER PLAN[a]**

Improvement	Map Reference (b)	Description of Proposed Project Improvements (Through Phase 2)	Phase 1	Phase 2	Phase 3	Phase 4	Responsibility
5. Electrical Power Backbone System [c]	--	49,200 linear feet of main backbone lines, new substation in GSE area, and 33 of 400Hz power systems	28,900 linear feet of main backbone lines, new substation in GSE area, and 24 of 400Hz power systems	Additional 20,300 linear feet of backbone lines, substation upgrades, and additional 9 of 400Hz power systems			County/Utility Provider
6. Communications Backbone system/Wide Area Network	--	63,160 linear feet of backbone supply lines and new MDF facility	42,700 linear feet of backbone supply lines and new MDF facility	Additional 20,400 linear feet of backbone supply lines			County/Utility Provider
7. Storm Drainage Backbone system	--	128,330 feet of storm drains, 7,240 trench drains, 4 oil-water separators, 43 junction structures, 268 manholes and 537 catch basins for the Marshburn Channel, Ben Canyon, Agua Chiron and Borrego Systems	71,197 feet of storm drains, 2,350 trench drains, 1 oil-water separator, 32 junction structures, 173 manholes and 346 catch basins	57,133 feet of storm drains, 4,890 trench drains, 3 oil-water separators, 11 junction structures, 95 manholes and 191 catch basins			County/Utility Provider
8. Cable Television Backbone system	--	37,500 linear feet of fiber optics and coaxial cable backbone lines	21,500 linear feet of fiber optics feeder and coaxial cable backbone lines	Additional 16,000 linear feet of coaxial cable backbone lines			County/Utility Provider
C. AIRFIELD							
1. Site Demolition	4-3	877,322 cubic feet of buildings/structures; 994,574 square yards of AC pavements and 659,601 square yards of PCC pavements for Runways, Taxiways, Aprons	363,848 cubic feet of building/structures; 883,338 square yards of AC pavements and 437,710 square yards of PCC pavements	513,524 cubic feet of building/structures; 191,236 square yards of AC pavements and 221,891 square yards of PCC pavements			County
2. Site Grading	8-8	Cut 2,569,445 yards; Fill 6,901,921 cubic yards	Cut 83,262 cubic yards; Fill 1,145,234 cubic yards	Cut 2,486,243 cubic yards; Fill 5,756,687 cubic yards			County
3. Site Utilities [d]	8-8	No further deterioration	Partial	Partial			County

[c] Includes 400 Hz for cargo and RON areas. Terminal 400 Hz power systems are included under Terminal Building Area
 [d] Includes fire hydrants.

**TABLE 3-9A
SUMMARY LIST OF IMPROVEMENTS AT OCK AND JWA RECOMMENDED FOR PHASE 2 OF AIRPORT SYSTEM MASTER PLAN(4)**

Improvement	Map Reference [a]	Description of Proposed Project Improvements (Through Phase 2)	Phase 1	Phase 2	Phase 3	Phase 4	Responsibility	PS
4. Reconstruction and Lengthening of Runway 16R-34L	E-4	12,400 linear feet; 3,247 tons of paving overlay	Reconstruct existing 10,000 feet; 3,247 tons of paving overlay	Construct 2,400 feet extension			County	
5. Reconstruction and Lengthening of Runway 7R-25L, Flattening the Gradient	E-4	9,150 linear feet		All			County	
6. New Runway 16L-34R	E-4	12,100 linear feet, 900 feet separation east of Runway 16R-34L		All			County	
7. New Parallel N-S Taxiway on West Side of Airfield (Taxiway A)	E-4	137,414 square yards of PCC paving; 11,817 linear feet lighting	112,182 square yards of paving and 9,687 linear feet lighting	25,232 square yards of paving and 2,130 linear feet lighting			County	
8. New Parallel N-S Taxiway on East Side of Airfield (Taxiway C)	E-4	166,326 square yards of PCC paving		166,326 square yards of paving and 11,963 linear feet lighting			County	
9. New Parallel E-W Taxiway on North Side of Airfield (Taxiway B)	E-4	81,997 square yards of PCC paving and 8,778 linear feet lighting		81,997 square yards of PCC paving and 8,778 linear feet lighting			County	
10. Blast Pads - Runways 34,16,25	E-4	84,889 square yards Asphalt Concrete paving	24,889 square yards Asphalt Concrete Paving	44,444 square yards Asphalt Concrete Paving			County	
11. Exit Taxiways for Runways 16-34	E-4	190,724 square yards of PCC paving	36,318 square yards of PCC paving	151,280 square yards of PCC paving			County	
12. Exit Taxiways for Runways 7-25	E-4	37,217 square yards of PCC paving		37,217 square yards of PCC paving			County	
13. Airport Service Road, lighting, signing & striping	E-4	37,500 linear feet of restricted access road	17,800 linear feet of restricted access road	19,700 linear feet of restricted access road			County	
14. Blast Fences	E-4	2,044 linear feet Runway 16R-34L; 2,793 linear feet Runway 16L-34R	2,044 linear feet Runway 16R-34L	2,793 linear feet Runway 16L-34R			County	

TABLE 3-9A
SUMMARY LIST OF IMPROVEMENTS AT OCX AND JWA RECOMMENDED FOR PHASE 2 OF AIRPORT SYSTEM MASTER PLAN(a)

Improvement	Map Reference (b)	Description of Proposed Project Improvements (Through Phase 2)	Phase 1	Phase 2	Phase 3	Phase 4	Responsibility (c)
D. LIGHTING AND NAVIGATIONAL AIDS							
1. Site Demolition	E-2	Included in Airfield	Included in Airfield	Included in Airfield			County
2. Site Grading	E-2	Included in Airfield	Included in Airfield	Included in Airfield			County
3. Site Utilities	E-2	Included in Airfield	Included in Airfield	Included in Airfield			County
4. High Intensity Edge Lighting for Runway 16R-34L	E-2	12,270 linear feet - both sides of runway	9,853 linear feet - both sides of runway	2,417 linear feet - both sides of runway			County
5. High Intensity Edge Lighting for Runway 16L-34R	E-2	11,675 linear feet - both sides of runway		11,675 linear feet - both sides of runway			County
6. High Intensity Edge Lighting for Runway 7R-25L	E-2	9,150 linear feet - both sides of runway		9,150 linear feet - both sides of runway			County
7. Medium Intensity Edge Lighting for all Taxiways	E-2	51,374 linear feet - both sides of taxiway	12,137 linear feet - both sides of taxiway	39,237 linear feet - both sides of taxiway			County
8. Runway Signage	E-2	Covering 33,095 feet of Runway	Covering 9,853 feet of Runway	Covering 23,242 feet of Runway			County
9. Taxiway Signage	E-2	Covering 51,374 feet of taxiway	Covering 12,137 feet of taxiway	Covering 39,237 feet of taxiway			County
10. Approach Light systems for Runway 34L	E-2, E-6c, E-6c, 7-2g	MAISLR	All				FAA
11. Approach Light systems for Runways 34R	E-2, E-6c, 7-2g	MAISLR		All			FAA
12. Precision Instrument Approach system for Runway 34L	E-2	ILS Category I	All				FAA
13. Precision Instrument Approach system for Runway 34R	E-2	ILS Category I		All			FAA
14. Airport Surveillance Radar (ASR)	E-5a	ASR II	All				FAA
15. Automated Weather Observation Station (AWOS)	E-2	No further description	All				County
16. Runway Visual Range (RVR) Equipment - Runways 34L & 34R	E-2	No further description	All				County
17. Airport Rotating Beacon	E-2	No further description	All				County
18. Supplemental Wind Cones	E-2	6	4	2			County
19. Airport Segmented Circle	E-2	No further description	All				County

TABLE 3-9A
SUMMARY LIST OF IMPROVEMENTS AT OCK AND JWA RECOMMENDED FOR PHASE 2 OF AIRPORT SYSTEM MASTER PLAN(a)

Improvement	Map Reference (N)	Description of Proposed Project Improvements (Through Phase 2)	Phase 1	Phase 2	Phase 3	Phase 4	Responsibility	Ph 1 / 2
20. Airfield Lighting Voids(s)	E-8	No further description	No description	No description			County	
21. Very High Frequency Omni-Range/ Distance Measuring Equipment (VOR/DME)	6-5a or 7-1g	No further description	All				FAA	6
22. Precision Approach Path Indicator System (PAPI) -Runways 34L&34R	E-8	For runways 34L and 34R	For runway 34L	For runway 34RL			FAA	
23. Precision Approach Path Indicator System (PAPI) -Runways 16L&16R	E-8	For runways 16L and 16R	For runway 16R	For runway 16L			FAA	
24. Precision Approach Path Indicator System (PAPI) -Runway 7 R	E-8	For runway 7R		For runway 7R			FAA	
E. TERMINAL APRON AND REMOTE OVERNIGHT PARKING								
1. Site Demolition	1-9b, 2-12b	7,803,006 cubic feet of building/structures; 55,879 square yards of AC pavements and 19,444 square yards of PCC pavements	6,936,803 cubic feet of building/structures; 21,560 square yards of AC pavements and 19,444 square yards of PCC pavements	866,204 cubic feet of building/structures; 34,319 square yards of AC pavements			County	
2. Site Grading	1-9b, 2-12b	Cut 78,280 cubic yards; Fill 4,303,269 cubic yards	Fill 1,658,187 cubic yards	Cut 78,280 cubic yards; Fill 2,645,082 cubic yards			County	
3. Site Utilities	1-9b, 2-12b	40 Acres	Included in Airfield	Included in Airfield			County	
4. Terminal Apron	1-9b	876,200 square yards Portland Cement Concrete Paving and lighting	395,391 square yards PCC paving and lighting	483,809 square yards PCC paving and lighting			County	
5. Hydrant Fuel system at Terminal Apron	1-9b	44 jet gates; 53 fuel hydrant pits; 16 isolation valve pits; 26,400 linear feet 10" distribution pipeline and 8,400 linear feet 4" connection pipeline; 2 leak detection systems; 4 hydrant service vehicles	21 Jet Gates; 24 fuel hydrant pits; 8 isolation valve pits; 23,000 linear feet 10" distribution pipeline; 3,600 linear feet 4" connection pipeline; 1 leak detection system; 2 hydrant service vehicles	23 Jet Gates; 39 fuel hydrant pits; 8 isolation valve pits; 4,400 linear feet 10" distribution pipeline; 4,800 linear feet 4" connection pipeline; 1 leak detection system; 2 hydrant service vehicles			County/Terraco	
6. Remote Overnight Parking in Terminal Area	1-9b	16 RON parking positions		16 positions			County	

TABLE 3-9A
SUMMARY LIST OF IMPROVEMENTS AT OCX AND JWA RECOMMENDED FOR PHASE 2 OF AIRPORT SYSTEM MASTER PLAN(e)

Improvement	Map Reference (b)	Description of Proposed Project Improvements (Through Phase 2)	Phase 1	Phase 2	Phase 3	Phase 4	Responsibility	Ph A
7. Remote Overnight Parking in Planning Area 2	2-12b	5 RON parking positions		5 positions			County	
8. Terminal Apron Area Lighting	1-9b	No further description	No description	No description			County	
9. Terminal Taxiway Lighting	1-9b	No further description	No description	No description			County	
F. TERMINAL BUILDING AREA								
1. Site Demolition (includes demolition of terminal vehicle parking and support areas)	1-9b	3,675,482 cubic feet of building/structures; 46,989 square yards of AC pavements.	2,466,426 cubic feet of building/structures; 29,860 square yards of AC pavements.	1,209,056 cubic feet of building/structures; 19,129 square yards of AC pavements.			County	
2. Site Grading (quantities includes terminal vehicle parking and support areas)	1-9b	192 Acres, Cut 7,666,139 cubic yards; Fill 306,798 cubic yards	Cut 3,091,944 cubic yards; Fill 235,829 cubic yards	Cut 1,714,195 cubic yards; Fill 50,909 cubic yards			County	
3. Site Utilities	1-9b	192 Acres	192 Acres				County	
4. Terminal Building (c)	1-9b	1.44 million square feet	520,000 square feet	919,700 square feet			County	
5. Central Utility Plant (f)	1-9b	To support 1.44 million square feet of terminal building	To support 520,000 square feet of terminal building	To support 919,700 square feet of terminal building			County	
6. Passenger Loading Bridges	1-9b	44 jet gates	23 Jet Gates	23 Jet Gates			County	
7. Pedestrian bridges to parking structures	1-9b	2 bridges	1	1			County	
8. Baggage Handling systems	1-9b	16 baggage handling systems	7 systems	9 systems			County	
9. Communication and Display systems	1-9b	44 systems	21 systems	23 systems			County	
10. Preconditioned Air and 400 Hz Power	1-9b	To support 1.44 million square feet of terminal building	To support 520,000 square feet of terminal building	To support 919,700 square feet of terminal building			County	
11. Landscaping	1-9b	37.9 acres	23.3 acres	12.6 acres			County	
12. Moving Sidewalks	1-9b	4,000 linear feet		4,000 linear feet			County	
G. TERMINAL VEHICLE PARKING AND SUPPORT AREAS								
1. Site Utilities	1-9b	No further description	Included in Terminal Building	Included in Terminal Building			County	
2. Short-Term Parking Structures	1-9b	6,780 spaces	3,700 Spaces	3,000 Spaces			County	
3. Long-Term Surface Parking in Terminal Area (Lot A)	1-9b	40 acres; 4,940 spaces	3,700 Spaces	1240 spaces			County	

(c) Includes Housekeeping and Support Facilities
(f) Includes Preconditioned Air and 400 Hz Power

TABLE 3-9A
SUMMARY LIST OF IMPROVEMENTS AT OCX AND JWA RECOMMENDED FOR PHASE 2 OF AIRPORT SYSTEM MASTER PLAN(a)

Improvement	Map Reference (b)	Description of Proposed Project Improvements (Through Phase 2)	Phase 1	Phase 2	Phase 3	Phase 4	Responsibility	PI
4. Remove Surface Parking N. of Irvine Blvd (Public & Employee)	1-9b	22 acres (approx.); 2,660 spaces (1,760 public spaces & 850 employee spaces)		2,610 Spaces (1,760 public spaces & 850 employee spaces)			County	
5. Employee Parking	1-9b	22 acres; 2,750 spaces	1,700 Spaces	1,050 Spaces			County	
6. Rental Car Ready Return and Service Area Facilities	1-9b	34 acres	22 Acres	12 Acres			Tenant	
7. Hotel Facilities	1-9b	500 rooms	All				Tenant	
8. Lighting	1-9b	No further description	Included in Terminal Building	Included in Terminal Building			County	
9. Landscaping	1-9b	No further description	Included in Terminal Building	Included in Terminal Building			County	
10. Shuttle Bus Facilities and Equipment	1-9b, 4-10a, 5-9a	1 Pedestrian bridge & TTC station; 5 bus shelters	1 Pedestrian bridge & TTC station, 3 bus shelters	2 bus shelters			County	
H. TERMINAL ACCESS AND ROADWAYS								
1. Site Demolition	1-9b	31,396,697 cubic feet of building/structures; 47,295,956 cubic feet of building/structures; 491,537 square yards of AC Pavements.	27,295,956 cubic feet of building/structures; 491,537 square yards of AC Pavements.	4,100,761 cubic feet of building/structures.			County	
2. Site Drainage State Route 133 (SR133) - (Grading for other terminal roads has been included under Terminal Building Area)	1-9b	9,370 linear feet of drainage improvements		9,370 linear feet of drainage improvements			County	
3. Site Utilities - (SR133)	1-9b	9,370 linear feet (SR-133 Lighting, Signage & Striping)		9,370 linear feet (SR-133 Lighting, Signage & Striping)			County	
4. SR-133 Auxiliary Lanes, Diverge lanes, Merge Lanes		Northbound and Southbound lanes on SR-133 from I-5 to airport ramps		12,870 linear feet (1 lane); 49,480 square feet of retaining walls;			County	

TABLE 3-9A
SUMMARY LIST OF IMPROVEMENTS AT OCK AND JWA RECOMMENDED FOR PHASE 2 OF AIRPORT SYSTEM MASTER PLAN[a]

Improvement	Map Reference [b]	Description of Proposed Project Improvements (Through Phase 2)	Phase 1	Phase 2	Phase 3	Phase 4	Responsibility	PS
5. SR-133 North Bound (NB) off-ramps and South Bound (SB) on-ramps	--	northbound SR-133 to airport, and airport to southbound SR-133		3,400 linear feet @ grade + 59,400 square feet structures 3 lane NB off-ramp; 5,000 square feet Retain. Wall; 1,700 linear feet @ grade + 90,200 square feet structures 3 lane SB on-ramp.			County	
6. Trabuco Road (Sand Canyon to Hotel Site)	--	Widens to 4-lane primary; 2,199 linear feet	Widens to 4-lane primary; 2,199 linear feet				County (Partial)	
7. Terminal Loop Roadway (surface & elevator)	1-9b	1 to 6 lanes at surface - 9,300 feet long; elevated at 45,200 square feet	600 linear feet (1 Lane); 5,800 linear feet (2 Lane); 1,000 linear feet (4 Lane); 300 linear feet (5 Lane); 800 linear feet (6 Lane); 14,400 square feet (6 Lane Bridge)	600 linear feet (3 Lane); 30,800 square feet 3 lane bridge over RAC area.			County	
8. RACAT Parking Perimeter Spine Road	1-9b	4 lane-medium; 2,800 linear feet	4 lane-medium; 2,800 linear feet				County	
9. Terminal Way	1-9b	4 Lane + Median; 1,050 linear feet	4 Lane + Median; 1,050 linear feet				County	
10. Terminal Curbside - Lower level (Commercial)	1-9b	14,400 square feet Recirculation Ramp from Curbside; 2,300 linear feet Terminal Curbside; 48,000 square feet sidewalk.	14,400 square feet Recirc. Ramp from Curbside; 2,300 Terminal Curbside; 48,000 square feet sidewalk.				County	
11. Terminal Curbside - Middle level (Arrivals)	1-9b	14,400 square feet Recirculation Ramp from Curbside; 2,300 linear feet Terminal Curbside.	14,400 square feet Re-circ. Ramp from Curbside; 2,300 linear feet Terminal Curbside.				County	
12. Terminal Curbside - Upper level (Departures)	1-9b	14,400 square feet Recirculation Ramp from Curbside; 2,300 linear feet Terminal Curbside.	14,400 square feet Re-circ. Ramp from Curbside; 2,300 linear feet Terminal Curbside.				County	

**TABLE 3-9A
SUMMARY LIST OF IMPROVEMENTS AT OCX AND JWA RECOMMENDED FOR PHASE 2 OF AIRPORT SYSTEM MASTER PLAN[A]**

Improvement	Map Reference [A]	Description of Proposed Project Improvements (Through Phase 2)	Phase 1	Phase 2	Phase 3	Phase 4	Responsibility [B]
13. Perimeter Road around ST parking structure	1-9b	2 lanes 2,400 linear feet	2 lanes 2,400 linear feet				County
14. Employee Parking Road (4 lane)	1-9b	2,900 linear feet (2 additional lanes + median)	1,450 linear feet (2 additional lanes + median)	1,450 linear feet (2 additional lanes + median)			County
15. Terminal Service Roads (2 lane)	1-9b	4,200 linear feet Road (2 Lane Grade)	4,200 linear feet Road (2 Lane Grade)				County
16. Traffic Signals	1-9b	6 each	4 each	2 each			County
17. Phase 1 Interim Loop Road (3 lanes)	1-9b	1,000 linear feet	1,000 linear feet				County
18. Phase 1 Interim Ramp to Upper Level (2 lanes)	1-9b	600 linear feet	600 linear feet				County
19. Phase 1 Interim Ramp to Lower Level	1-9b	600 linear feet	600 linear feet				County
I. NON-TERMINAL ROADWAYS							
1. Interim Marine Way Widening (Sand Canyon to Emp. Parking Rd)	--	2,450 linear feet	2,450 linear feet				County
2. Air Cargo Way (Sand Canyon to Emp. Parking Rd)	--	2,784 linear feet		2,784 linear feet			County
3. Air Cargo Way (Emp. Parking Rd to Planning Area 3)	--	11,720 linear feet		11,720 linear feet			County
4. Air Cargo Way (Planning Area 3)	--	4,160 linear feet		4,160 linear feet			County
5. Ansox Extension (EXIST storm channel to "Z" Street)	--	2,180 linear feet		2,180 linear feet			County
6. "Z" Street widening	--	1,410 linear feet		1,410 linear feet			County
7. Planning Area 2 Access Roads	--	6,250 linear feet		6,250 linear feet			County
D. WEST CARGO AREA							
1. Site Demolition	4-11a	24,881,458 cubic feet of building/structures; 221,602 square yards of AC pavements and 225,957 square yards of PCC pavements	24,335,232 cubic feet of building/structures; 148,699 square yards of AC pavements and 116,022 square yards of PCC pavements	546,256 cubic feet of building/structures; 72,903 square yards of AC pavements and 109,835 square yards of PCC pavements			County
2. Site Grading and Drainage	4-11a	79 Acres; Cut 144,466 cubic yards; Fill 1,462,839 cubic yards	52 Acres; Cut 111,383 cubic yards; Fill 999,089 cubic yards	27 Acres; Cut 33,083 cubic yards; Fill 462,950 cubic yards			County / Tenant

TABLE 3-9A
SUMMARY LIST OF IMPROVEMENTS AT OCX AND JWA RECOMMENDED FOR PHASE 2 OF AIRPORT SYSTEM MASTER PLAN[a]

Improvement	Map Reference [b]	Description of Proposed Project Improvements (Through Phase 2)	Phase 1	Phase 2	Phase 3	Phase 4	Responsibility	Ph. A
3. Site Utilities	4-11a	79 Acres; 10,000 linear feet Curb & Gutter	52 Acres; 3,000 linear feet curb & gutter	27 Acres; 3,000 linear feet curb & gutter			County / Tenant	
4. Cargo Taxiways and Apron	4-11a	21 aircraft parking positions plus 100,000 square feet auxiliary ramp; 170,108 square yards concrete w/stabilized base.	13 hardstands plus 50,000 square feet auxiliary Ramp; 60,825 square yards concrete w/stabilized base.	8 hardstands plus 50,000 square feet auxiliary Ramp; 109,483 square yards concrete w/stabilized base.			County / Tenant	
5. Cargo Apron Hydrant Fueling system	4-11a	11 fuel hydrant pits; 8 isolation valve pits; 14,600 linear feet 10" carbon steel pipe and 2,700 linear feet 4" carbon steel connection pipe; 1 leak detection system; 2 hydrant service vehicles.	6 fuel hydrants; 6 isolation valve pits; 11,800 linear feet 10" carbon steel pipe; 1,200 linear feet 4" carbon steel branch connection pipe; 1 leak detection system; 1 hydrant service vehicle	5 fuel hydrants; 2 isolation valve pits; 3,000 linear feet 10" carbon steel pipe; 1,500 linear feet 4" carbon steel branch connection pipe; 1 hydrant service vehicle			County / Tenant	
6. Cargo Apron Lighting	4-11a	89 acres (approx.), 21 of 400 Hz Power systems	12 of 400 Hz Power systems	9 of 400 Hz Power systems			County / Tenant	
7. Cargo Warehouse / Office Building [a]	4-11a	1,260,000 square feet bldg.	620,000 square feet bldg.	420,000 square feet bldg.			County / Tenant	
8. Cargo Area Entrance Roadways	4-11a	61,200 square yards Asphalt Concrete Paving	16,800 square yards asphalt concrete	1 contractor; 27,000 square yards asphalt concrete			County / Tenant	
9. Cargo Area Truck Docks and Staging Area	4-11a	163 truck docks plus 105 truck staging spaces; 14,600 square yards concrete for docks/truck staging	78 truck docks plus 51 truck staging spaces; 7,950 square yards concrete for docks/truck staging	25 truck docks plus 55 truck staging spaces; 8,550 square yards concrete docks/truck staging			County / Tenant	
10. Cargo Area Vehicle Parking	4-11a	950 spaces	475 spaces	475 spaces			County / Tenant	
11. Landscaping	4-11a	55,080 square feet Landscaping	30,780 square feet	24,300 square feet			County / Tenant	

[a] Would accommodate cargo carriers, U.S. Postal Service, and U.S. Customs.

**TABLE 3-9A
SUMMARY LIST OF IMPROVEMENTS AT OCK AND JWA RECOMMENDED FOR PHASE 2 OF AIRPORT SYSTEM MASTER PLAN(a)**

Improvement	Map Reference (b)	Description of Proposed Project Improvements (Through Phase 2)	Phase 1	Phase 2	Phase 3	Phase 4	Responsibility	PI
K. EAST CARGO AREA								
1. Site Demolition	2-11b	1,895,334 square yards of AC pavements and 997,880 square yards of PCC pavements.	1,542,358 square yards of AC pavements and 585,023 square yards of PCC pavements.	453,008 square yards of AC pavements and 412,857 square yards of PCC pavements.			County	
L. GENERAL AVIATION AREA								
1. Site Demolition	2-12d	3,268,572 cubic feet of building/structures; 45,068 square yards of AC pavements & 81,131 square yards of PCC pavements.	236,780 cubic feet of building/structures; 808 square yards of AC pavements.	3,037,672 cubic feet of building/structures; 44,260 square yards of AC pavement & 81,131 square yards of PCC pavements.			County	
2. Site Grading and Drainage	2-13d	Cut 409,429 cubic yards	Cut 40,112 cubic yards	Cut 469,317 cubic yards			County / Tenant	
3. Site Utilities	2-13d	28 acres	2 acres fire fuel facility	24 acres			County / Tenant	
4. Access Roadway Entrance & Vehicle Parking	2-12d	1 entrance; 11,600 square yards AC paving	One entrance	Two entrances			County / Tenant	
5. Hangar & Office (FBO)	2-13d	50,000 square feet bldg		50,000 square feet			Tenant	
6. Hangar & Office (Gov/Corp)	2-13d	30,000 square feet bldg		30,000 square feet			County	
7. General Aviation Taxiways and Ramp	2-12d	54,129 square yards Portland Cement Concrete Paving		Portland Cement Concrete Paving 54,129 square yards			County / Tenant	
8. Portland Cement Concrete Paving Taxiways Parking (Non-Tenant Cost)	2-12d	17,361 square feet Portland Cement Concrete Paving		Portland Cement Concrete Paving 17,361 square yards			County	
9. General Aviation Fueling Facility	2-12d	One	All				Tenant	
10. Aircraft Washing Facility	2-12d	One		All			County / Tenant	
11. Landscaping	2-12d	No further description	No description	No description			County / Tenant	

**TABLE 3-9A
SUMMARY LIST OF IMPROVEMENTS AT OCX AND JWA RECOMMENDED FOR PHASE 2 OF AIRPORT SYSTEM MASTER PLAN(a)**

Improvement	Map Reference (b)	Description of Proposed Project Improvements (Through Phase 2)	Phase 1	Phase 2	Phase 3	Phase 4	Responsibility	File #
M. IN-FLIGHT CATERING AREA								
1. Site Demolition	2-12a	9.3 acres; 2,045 square yards of AC pavements	4.6 Acres; 1,045 square yards of AC pavements	4.7 Acres; 1,000 square yards of AC pavements			County	
2. Site Grading and Drainage	2-12a	Cut 54,448 cubic yards; Fill 67 cubic yards	Cut 27,087 cubic yards; Fill 16 cubic yards	Cut 27,361 cubic yards; Fill 51 cubic yards			County / Tenant	
3. Site Utilities	2-12a	8.9 acres	3.0 acres	3.9 acres			County / Tenant	
4. Access Roadway Entrance & IFC Vehicle Parking	2-12a	1 entrance; 19,204 square yards Asphalt Concrete Paving	1 entrance; 12,216 square yards Asphalt Concrete Paving	6,988 square yards Asphalt Concrete Paving			County / Tenant	
5. Service Road Entrances	2-12a	1 entrance	1 entrance				County / Tenant	
6. Buildings and Other Tenant Improvements	2-12a	100,000 square feet bldg.	100,000 square feet	100,000 square feet			Tenant	
7. Landscaping	2-12a	19,204 square feet Landscaping	12,216 square feet	6,988 square feet			Tenant	
N. AIR TRAFFIC CONTROL TOWER/TRACON COMMUNICATION EQUIPMENT								
1. Site Demolition	2-12c or 2-12f	1,617,333 cubic feet of building/structures; 11,848 square yards of PCC pavements.	1,617,333 cubic feet of building/structures; 11,848 square yards of PCC pavements.				County	2
2. Site Grading and Drainage	2-12c or 2-12f	2.5 to 4 Acres; Cut 35,611 cubic yards	Cut 35,611 cubic yards				County / FAA	2
3. Site Utilities	2-12c or 2-12f	2.4 acres	All				County / FAA	2
4. Access Roadway and Vehicle Parking	2-12c or 2-12f	One Access Roadway; 40 parking spaces.	One Access Roadway; 40 parking spaces.				County / FAA	2
5. New Air Traffic Control Tower and Related Equipment/Facilities	2-12c or 2-12f	5,000 square feet base building; 1 control tower; 1 ASR11 radar	5,000 square feet base building; 1 control tower; 1 ASR11 radar				FAA	1
6. Relocation of TRACON Communication Equipment	2-12c or 2-12f	No further description	All				FAA	2

TABLE 3-9A
SUMMARY LIST OF IMPROVEMENTS AT OCX AND JWA RECOMMENDED FOR PHASE 2 OF AIRPORT SYSTEM MASTER PLAN[a]

Improvement	Map Reference [b]	Description of Proposed Project Improvements (Through Phase 2)	Phase 1	Phase 2	Phase 3	Phase 4	Responsibility	7b
Q. AIRPORT RESCUE AND FIREFIGHTING (ARFF) FACILITY								
1. ARFF - Fire Trucks & Emergency Vehicles	--	1 Fleet - 4 of Fire Trucks Crash Unit and 3 Stationary Pumps	Partial of ARFF fleet	Partial of ARFF fleet			County	
P. AVIATION INDUSTRIAL AND RELATED AREA								
1. Site Demolition	2-12b	3,725,398 cubic feet of building/structures; 71,164 square yards of AC pavements	13,694,628 cubic feet of building/structures; 34,810 square yards of AC pavements	30,774 cubic feet of building/structures; 36,354 square yards of AC pavements.			County	
2. Site Grading and Drainage	2-12b	26 acres; Cut 491,631 cubic yards		26 Acres; Cut 491,631 cubic yards			County / Tenant	
3. Site Utilities	2-12b	26 acres		26 acres			County / Tenant	
4. Access Roadway Entrances	2-12b	One		One			County / Tenant	
5. Buildings and Other Tenant Improvements	2-12b	No further description		Tenant Improvements			Tenant	
6. Landscaping	2-12b	No further description		Tenant Improvements			County / Tenant	
Q. AIRPORT MAINTENANCE FACILITIES (Long-Term etc)								
6. Maintenance Vehicle Fuel Facility	3-13f	1 acre	All					
R. AIRCRAFT MAINTENANCE AREA (PA-2 & PA-3)								
1. Site Demolition	2-12b, 3-12g	684,130 cubic feet of building/structures; 34,634 square yards of AC pavements & 81,876 square yards of PCC pavements.		684,130 cubic feet of building/structures; 34,634 square yards of AC pavements			County	
2. Site Grading and Drainage	2-12b, 3-12g	25 acres; Cut 979,738 cubic yards		25 Acres; Cut 979,738 cubic yards			County / Tenant	
3. Site Utilities	2-12b, 3-12g	25 acres		25 acres			County / Tenant	
4. Access Roadway Entrances and Vehicle Parking	2-12b, 3-12g	Two entrances		Two entrances			County / Tenant	

**TABLE 3-9A
SUMMARY LIST OF IMPROVEMENTS AT OCK AND JWA RECOMMENDED FOR PHASE 1 OF AIRPORT SYSTEM MASTER PLAN(a)**

Improvement	Map Reference (b)	Description of Proposed Project Improvements (Through Phase 2)	Phase 1	Phase 2	Phase 3	Phase 4	Responsibility	Ph
5. Airline Maintenance Taxiways and Apron	2-12b, 3-12g	85,902 square yards Portland Cement Concrete		85,902 square yards Portland Cement Concrete Paving			County / Tensas	
6. Airline Maintenance Facilities and Other Tenant Improvements	2-12b, 3-12g	Hangar 152,000 square foot		Hangar 152,000 square foot			Tensas	
S. AIRPORT TRANSPORTATION CENTER (Skuttle Bus Service)								
1. Pedestrian Bridge to Inland Transportation Center	4-10b	Pedestrian bridge to serve bus shelter at ATC	Pedestrian bridge to serve bus shelter at ATC				County	
T. AIRPORT SHUTTLE BUS MAINTENANCE FACILITY								
1. Site Demolition	4-10a	11 acres	11 acres				County	
2. Site Grading and Drainage	4-10a	11 acres	11 acres				County	
3. Site Utilities	4-10a	11 acres					County	
4. Access Roadway Entrance	4-10a	No further description	One				County	
5. Bus Maintenance Facility	4-10a	No further description	Maintenance building 30,000 square feet, outdoor storage and parking 25,500 square feet, natural gas fueling facility, and buses	20 buses	10 additional buses		County	
6. Landscaping	4-10a	No further description					County	
U. FUEL DELIVERY, STORAGE AND DISTRIBUTION FACILITY								
1. Site Demolition	4-12i	6,720 cubic feet of building/structures; 31,970 square yards of AC pavements.	7,198 square yards of AC pavements.	6,720 cubic feet of building/structures; 24,772 square yards of AC pavements.			County / Airlines	
2. Site Grading and Drainage	4-12i	7.7 acres; Cut 74 cubic yards; Fill 39,833 cubic yards	5.8 Acres; Cut 74 cubic yards; Fill 34,181 cubic yards	2.1 Acres; Fill 3,652 cubic yards			County / Airlines	
3. Site Utilities	4-12i	7.3 acres	5.6 acres	2.1 acres			County / Airlines	
4. Access Roadway Entrance	4-12i	Two entrances	Two entrances				County / Airlines	
5. Pipeline Connection to Nowalk Fuel Supply Line (pipeline delivery option only)	1-9b, 4-6d, 4-12i	One system; 14,400 linear feet of 8" Dia. welded Steel	Two entrances	14,400 linear feet of 8" Dia. welded Steel			County / Airlines	

**TABLE 3-9A
SUMMARY LIST OF IMPROVEMENTS AT OCKX AND JWA RECOMMENDED FOR PHASE 2 OF AIRPORT SYSTEM MASTER PLAN(a)**

Improvement	Map Reference (b)	Description of Proposed Project Improvements (Through Phase 2)	Phase 1	Phase 2	Phase 3	Phase 4	Responsibility	Ph
6. Pipeline Connection to Santa Fe Pacific Fuel Supply Line (pipeline delivery option only)	4-12i	One system; 250 linear feet of 10" Dia. welded Steel	250 linear feet of 10" Dia. welded Steel				County / Airlines	
7. Fuel Storage Facilities	4-12i	5.25 million gallons, three 100' diameter 30 feet high above-ground tanks	1.75 million gallons; 1 Storage Tank (100 feet dia by 30 feet high)	3.5 million gallons; 2 Storage Tanks (100 feet dia by 30 feet high)			County / Airlines	
8. Fuel Distribution Pipelines	1-9b, 8-8, 4-11a, 4-12i	250 linear feet 10" Fill Pipeline; 960 linear feet 14" Fill Pipeline; 760 linear feet 12" Suction Pipeline	100 linear feet 10" Supply Pipe Line; 480 linear feet 14" Fill Pipe Line; 610 linear feet 12" Suction Pipeline	150 linear feet 10" Supply Pipe Line; 480 linear feet 14" Fill Pipe Line; 150 linear feet 12" Suction Pipeline			County / Airlines	
9. Truck Unloading and Loading Facilities	4-12i	6 unloading stations	2 unloading stations	4 unloading stations			County / Airlines	
10. Fuel Monitoring and Control system	4-12i	3 pumps with controls and filters	1 pump with controls and filters	2 pumps with controls and filters			County / Airlines	
11. Building/Portland Cement Concrete paving	4-12i	4,250 square feet structure; 17,200 square yards 10" thick Portland Cement Concrete paving	4,250 square feet bldg; 8,700 square yards 10" thick PCC paving	8,500 square yards 10" thick PCC paving			County / Airlines	
12. Landscaping	4-12i	No further description	All					
V. GROUND SUPPORT EQUIPMENT (GSE) AREA								
1. Site Demolition	4-12h	15,891 square yards of AC pavements	3,470 square yards of AC pavements	2,349 square yards of AC pavements			County / Tenant	
2. Site Grading and Drainage	4-12h	4.6 acres, Fill 138,092 cubic yards		4.6 Acres, Fill 138,092 cubic yards			County / Tenant	
3. Site Utilities	4-12h	4.6 acres		4.6 acres			County / Tenant	
4. Access Roadway Entrances and Vehicle Parking	4-12h	1 Entrance		1 Entrance			County / Tenant	
5. Service Road Entrances	4-12h	1 Entrance		1 Entrance			County / Tenant	

TABLE 3-9A
SUMMARY LIST OF IMPROVEMENTS AT OCA AND JWA RECOMMENDED FOR PHASE 2 OF AIRPORT SYSTEM MASTER PLAN[a]

Improvement	Map Reference [b]	Description of Proposed Project Improvements (Through Phase 2)	Phase 1	Phase 2	Phase 3	Phase 4	Responsibility	PI
6. GSE Facilities and Tenant Improvements	4-12h	3,000 square feet Building; 15,617 square yards Asphalt Concrete Paving		3,000 square feet bldg; 15,617 square yards Asphalt Concrete Paving			Tenant	
7. Landscaping	4-12h	15,617 square feet		15,617 square feet			County / Tenant	
W. ENVIRONMENTAL CONTROL FACILITIES								
1. Storm Water Pollution Control Facilities	1-9b, 2-4	3 Oil Water Separators @ 50,000/gal and 1 Oil Water Separator @ 20,000/gal	1 Oil water separator (50,000 gal)	2 Oil water separators (50,000 gal) and 1 oil water separator(20,000 gal)			County	
2. Noise monitoring system		No further description	All				County	
X. SUPPORT SYSTEMS, FACILITIES & EQUIPMENT								
1. Central Security and Communications system, Access Gates and Control systems, and Security Fencing		One system - 10 gates; 34,419 linear feet of security fence and support equipment	10 gates; 42,823 linear feet of security fence and support equipment	11,394 linear feet of security fence and support equipment			County	
2. Airport Vehicles		Fleet	Partial of fleet	Partial of fleet			County	
Y. COMPATIBLE REVENUE SUPPORT								
1. Agriculture	5-1a, 3-1b, 3-1c, 3-1d, 7-1e	138.9 acres	All				County/Tenant	3
2. Golf Courses	3-3a, 3-3b, 7-3c; 7-3d, 7-3e, 7-3f	784.16 acres	All				County	

[b] For environmental planning purposes, assumed to be Phase 4, the financial analysis indicates it may not be feasible to complete this project element without supplemental funding.

TABLE 3-9A
SUMMARY LIST OF IMPROVEMENTS AT OCK AND JWA RECOMMENDED FOR PHASE 2 OF AIRPORT SYSTEM MASTER PLAN[6]

Improvement	Map Reference [6]	Description of Proposed Project Improvements (Through Phase 2)	Phase 1	Phase 2	Phase 3	Phase 4	Responsibility	Ph
4. Restricted Open Space	8-6a, 8-6b, 8-6c, 8-6d, 8-6e, 8-6f, 7-4g, 7-4h	193.4 acres	All				County	
5. Orange County Natural Community Conservation Plan/Habitat Conservation Plan - Habitat Reserve	3-5b	20.6 acres	All				County	
6. Marshflow Retarding Basin	5-7	18.9 acres	All				County	
7. Cultural/Recreational	2-16	81.5 acres		All			Tentative	
8. Public Facilities								
a. Vehicle Maintenance Yard	5-12a	53.8 acres	All				Tentative	
b. Food Distribution Warehouse	5-12b	11.8 acres	All				Tentative	
c. IRWD Reservoir and Pumping	3-13c	5.7 acres	All				Tentative	
d. Fire Station # 1	3-13d	1.2 acres	All				Tentative	
e. California Air National Guard	3-13e	24.1 acres	All				Tentative	
f. Homeless Services Providers	4-13f	28.3 acres	All				Tentative	
g. IRWD Facility	7-13g	9.0 acres	All				Tentative	
h. Fire Station # 2	4-13h	1.0 acres	All				Tentative	
9. Business Park	7-14a, 7-14b, 7-14c, 7-14d	86.8 acres	All				Tentative	
10. Right-of-way for Alton Parkway Extension		17.67 acres					Tentative	

**TABLE 3-9A
SUMMARY LIST OF IMPROVEMENTS AT OCK AND JWA RECOMMENDED FOR PHASE 2 OF AIRPORT SYSTEM MASTER PLAN[a]**

Improvement	Map Reference [b]	Description of Proposed Project Improvements (Through Phase 2)	Phase 1	Phase 2	Phase 3	Phase 4	Responsibility	Pi
JWA IMPROVEMENTS								
Z. GENERAL AVIATION IMPROVEMENTS [i]								
1. Site Preparation for Additional FBO Area	--	8.0 Acres		All			County	
2. Additional Transient Parking Ramp	--	5.0 Acres		All			County	
3. Additional Based Aircraft Tieovers on East Side	--	3.1 Acres		All			County	
4. Relocation of Mantz Way	--	750 linear feet		All			County	
5. New Aircraft Hangar and Reconfiguration of West Side Tieovers	--	36 hangar units with central restrooms on west side of airport (107,600 square feet)		36 hangar units with central restrooms on west side of airport (107,600 square feet)			County / Tenant	

[i] Relocation and expansion of airport maintenance facilities, new airport rescue and firefighting facility, and the relocation of 13 County hangar units are in the capital improvement program and are not included here.

11.3 IMPACTS ANALYSIS

As discussed above, Draft EIR No. 573 analyzes the environmental impacts associated with the Phase 4 build out of the Proposed ASMP Project. To the extent the impacts projected to result during the interim phasing years (Phases 1 through 3) differ from those impacts projected at build out, Draft EIR No. 573 analyzes such interim year impacts as well.

This supplemental analysis excerpts portions of Draft EIR No. 573 relative to the interim year phasing impacts, generally, and where applicable, the impacts relative to Phase 2, specifically.

Text originally appearing in Draft EIR No. 573 is presented in quotation marks with relevant page references. This section also serves to supplement the interim year phasing impacts analysis presented in Draft EIR No. 573 with additional analysis, where appropriate. When read in conjunction with the phasing year impacts analysis provided in Draft EIR No. 573, this supplemental phasing impacts analysis presents a comprehensive overview of the impacts associated with Phase 2 of the Proposed ASMP Project.

The analysis reveals that at Phase 2 of the Proposed Project, impacts will be of a lesser degree, generally, than those impacts projected to occur at Phase 4 build out. Reduced passenger and cargo aircraft operations will result in a corresponding reduction in the degree of impacts including, but not limited to, reduced noise, air quality and transportation/circulation impacts. The levels of significance for all impact categories at Phase 2, however, are substantially similar to those levels at Phase 4 build out. This is due to the fact that while the degree of project impacts at Phase 2 is less than that at Phase 4 build out, impacts at the Phase 2 level, like their counterparts at Phase 4 build out, exceed the applicable CEQA thresholds of significance. These impact categories include noise, air quality and transportation/circulation. Like Phase 4 build out, transportation/circulation impacts at Phase 2 can be mitigated below the level of significant; noise and air quality impacts remain significant and unavoidable.

All page, table and figure references contained here are to Draft EIR No. 573 (December 1999), unless otherwise noted. (Note: This section, as well as Draft EIR No. 573, intermittently refer to the ASMP as the ASMP, the proposed project or Alternative B; all such references are to the proposed project.)

11.3.1 Land Use

11.3.1.1 Physical Community Division

"The Proposed Project at completion and during each of the four phases would not physically divide an existing community" (4.1-10), and, therefore, would not result in significant adverse impacts at the Phase 2 implementation level.

11.3.1.2 Compatibility With Adjacent Land Uses

“The analysis of the proposed on-site uses [in DEIR No. 573 Sections 4.1.6.3 through 4.1.6.12] concludes that the Proposed Project does not create substantial incompatibilities between the project’s land uses and adjacent off-site existing and planned land uses, in accordance with Significance Threshold ii. The order or timing of the on-site improvements will not alter this conclusion; therefore, the Proposed Project will not create substantial incompatibilities at the time of project completion or during any of the four phases.” (4.1-11.) Accordingly, the Proposed ASMP Project would not result in significant adverse impacts at the Phase 2 implementation level. (This conclusion is based on the Proposed Project’s 65 CNEL noise contours. See Section 5.3.4, *infra*, noise impacts analysis.)

11.3.2 General Plan Consistency

“The Proposed Project’s impacts are generally analyzed according to the planned phases of construction. However, project consistency with County and City General Plans is applicable to the project actions occurring prior to Phase 1. Therefore, the General Plan Consistency analysis is not subject to analysis by phase.” (4.2-11.) The Proposed ASMP Project, therefore, will not result in significant adverse impacts at the Phase 2 implementation level.

11.3.3 Transportation and Circulation

“Table 4.3-14 summarizes the existing plus committed intersection locations, arterial roadways, freeway mainline segments, and freeway ramps that are significantly impacted by Phase 1 (2005) of the Proposed Project. Under the existing conditions plus committed (by 2005) roadway network setting, four intersection locations would be significantly impacted, three of which would operate at LOS E and one of which would operate at LOS F, and two arterial roadway segments would be significantly impacted, both of which would operate at LOS F. Also, one freeway ramp and one continuous freeway segment would be significantly impacted and would operate at LOS F.” (Draft EIR No. 573 Supplemental Analysis, *supra*, 3-10.)

**Table 4.3-14
Phase 1 (2005) Proposed Project Impact Summary**

Location	Jurisdiction	Location	Jurisdiction
IMPACTED INTERSECTIONS			
ETC East Leg NB & Irvine	County/TCA	Alicia & Paseo Valencia	Laguna Hills
Sand Canyon & Trabuco [1]	County	El Toro & Rockfield	Lake Forest
IMPACTED ARTERIAL ROADWAYS			
Irvine (ETC East Leg to PA-2 West Access Rd)	County	Laguna Canyon (south of El Toro) [1]	County/Caltrans Laguna Beach
IMPACTED FREEWAY SEGMENTS			
I-5 (SR-55 to Newport)	Caltrans		
IMPACTED FREEWAY RAMPS			
I-5 at Red Hill (SB On-Ramp)	Caltrans/Tustin		

[1] Facilities that are also significantly impacted in existing plus Proposed Project conditions (Table 4.3-10)

“Table 4.3-16 summarizes the existing plus committed intersection locations, arterial roadways, freeway mainline segments, and freeway ramps that are significantly impacted by Phase 2 (2010) of the Proposed Project. Under the existing conditions plus committed (by 2010) roadway network setting, five intersection locations would be significantly impacted, four of which would operate at LOS E and one of which would operate at LOS F, and two arterial roadway segments would be significantly impacted, both of which would operate at LOS F. Also, one freeway ramp and one continuous freeway segment would be significantly impacted and would operate at LOS F.” (Draft EIR No. 573 Supplemental Analysis, supra, 3-11.)¹

**Table 4.3-16
Phase 2 (2010) Proposed Project Impact Summary**

Location	Jurisdiction	Location	Jurisdiction
IMPACTED INTERSECTIONS			
ETC East Leg NB & Irvine	County/TCA	Alicia & Paseo Valencia	Laguna Hills
Sand Canyon & Trabuco [1]	County	El Toro & Rockfield	Lake Forest
Sand Canyon & I-5 NB Ramps [1]	Irvine/Caltrans		
IMPACTED ARTERIAL ROADWAYS			
Irvine (ETC East Leg to PA-2 West Access Rd)	County	Laguna Canyon (south of El Toro) [1]	County/Caltrans Laguna Beach
IMPACTED FREEWAY SEGMENTS			
I-5 (Sand Canyon to north of SR-55)	Caltrans		
IMPACTED FREEWAY RAMPS			
I-5 at Red Hill (SB On-Ramp)	Caltrans/Tustin		

[1] Facilities that are also significantly impacted in existing plus Proposed Project conditions (Table 4.3-10)

¹ The Draft EIR No. 573 transportation and circulation analysis trip generation data for Phase 2 assumed the full Phase 4 build out of all nonaviation land uses (e.g., business park, regional park, golf courses, etc.). (See Draft EIR No. 573 Table 7-3 Appendix D, Part 1.) Therefore, the Draft EIR No. 573 transportation and circulation Phase 2 analysis is premised upon Phase 2 aviation land uses and Phase 4 nonaviation land uses.

11.3.3.1 Mitigation Measures

Table 4.3-20A summarizes a set of potential circulation improvements that serve to mitigate the intersection, arterial roadway, freeway/tollway ramp, and freeway/tollway mainline impacts of the Proposed Project during the project's phased development from 2005 (opening phase) through Phase 2. The County's responsibility for implementing the proposed intersection, arterial roadway and freeway/tollway ramp mitigation improvements is noted on the summary table according to two types of improvements: 1) improvements wholly funded and constructed by the County, and 2) improvements whose implementation is contributed to by the County on a fair share basis (as mentioned earlier, the locations that require a fair share contribution by the project are forecasted to operate at unacceptable levels of service with or without the project).

The County's share of the cost to implement each fair share improvement location is also noted on the summary table. The timeframe identified for the implementation of each improvement is based on the results of the existing plus committed project phasing impact analysis summarized in Chapter 3.0 of this Supplemental Analysis. (See Draft EIR No. 573 Supplemental Analysis, supra, 3-14.)

11.3.3.2 Level of Significance After Mitigation

"The potentially significant adverse traffic impacts of the Airport System Master Plan Proposed Project would be reduced to below a level of significance based on the implementation of [Draft EIR No. 573] Mitigation Measures T-1 through T-17 described above. In the event that Traffic Operations Strategies (TOPS) improvements are not implemented prior to project phase completion, or if such improvements fail to mitigate the identified impacts to below a level of significance, the freeway/tollway mainline impacts will remain significant and unavoidable. Regarding off-site highway improvements that are not under the sole control of the County and are subject to the implementation procedures described in Mitigation Measures T-4 and T-9, in the event such off-site improvements are not implemented by the jurisdiction in which the improvements are located before completion of the project development phase that requires the improvements, the impacts at those unimproved locations will remain significant and unavoidable." (Draft EIR No. 573 Supplemental Analysis, supra, 3-20.)

**Table 4.3-20A
Proposed Project Impact Mitigation Improvements**

Location	Jurisdiction	Improvement	Date Needed	Funding Obligation	Project Share
IMPACTED INTERSECTIONS					
ETC East Leg NB & Irvine	County	Add third EB through lane and second NB right-turn lane	2005	Fully fund	100%
Sand Canyon & Trabuco	County	Add third NB through lane Add second WB left-turn lane and convert EB right-turn lane to shared second through/right-turn lane [1]	2005 [3]	Fully fund Fair share	100% 13%
Sand Cyn & I-5 NB Ramps	Irvine	Add third NB and SB through lanes Add second EB and WB through lanes, second WB left-turn lane and NB right-turn lane [2]	2010 2010	Fully fund Fully fund	100% 100%
Alicia & Paseo Valencia	Laguna Hills	Add second EB right-turn lane	2005	Fair share	6%
El Toro & Rockfield	Lake Forest	Add EB right-turn lane	2005	Fair share	9%
IMPACTED ARTERIAL ROADWAYS					
Irvine (ETC East Leg to PA-2 West Access Rd)	County	Improve to six lanes	2005	Fully fund	100%
Laguna Canyon (south of El Toro)	County/ Laguna Beach	Improve to four lanes	2005	Fair share	6%
Location	Jurisdiction	Improvement	Date Needed	Project Share of Future Traffic	
IMPACTED FREEWAY/TOLLWAY SEGMENTS					
I-5 at Red Hill (SB On-Ramp)	Caltrans/ Tustin	Convert HOV preferential lane to Add a second metered mixed-flow lane	2005	Fair share	3%
I-5 (north of SR-55)	Caltrans	Implementation of Caltrans TOPS	2010	10%	
I-5 (Newport to SR-55)	Caltrans	Implementation of Caltrans TOPS	2005	13%	
I-5 (Sand Canyon to Newport)	Caltrans	Implementation of Caltrans TOPS	2010	13%-15%	
Abbreviations: NB – northbound EB – eastbound SB – southbound WB – westbound					

- [1] Only required with the Trabuco Road/ETC interchange option
- [2] Not required with the Trabuco Road/ETC interchange option
- [3] Since the Trabuco Road/ETC interchange is not needed to address impacts during the phased development of the Proposed Project, no specific date for implementing improvements associated with the interchange has been determined.

11.3.4 Noise

11.3.4.1 Aviation Related Noise Impacts at MCAS El Toro

CNEL Contours for the Proposed Project

“Developed using the assumptions described earlier, the 60, 65 and 70 dB CNEL contours for the Proposed Project for calendar year 2020 operations are shown on [Draft EIR No. 573] Figure 4.4-34. Interim years (2005, 2010 and 2015) CNEL contours for the Proposed Project are shown on Figures 4.4-35, 4.4-36 and 4.4-37, respectively.” (4.4-67.) (See Draft EIR No. 573, Figures 4.4-35, 4.4-36 and 4.4-37.) As Figure 4.4-36 indicates, there are no existing residential uses inside the 65 CNEL contour for the Phase 2 project.

11.3.4.2 CNEL Contour Land Use Impacts for the Proposed Project

“There are no existing residential uses inside the 65 CNEL contour for any of the phasing years or the 2020 project contour. Table 4.4-29a compares the land use effects of the Proposed Project in each of the phasing years (2005, 2010, 2015 and 2020).” (4.4-67.) Like the 2020 proposed project scenario, the table indicates that while the Proposed Project will increase the total land area affected by the CNEL contours during Phase 2, there is little impact on incompatible uses. During Phase 1, there will be less total land area affected by the CNEL contours than the 1998 military contours.

11.3.4.3 CNEL Receptor Locations for the Proposed Project

Table 4.4-30a compares the CNEL at specific receptor locations for the Proposed Project for the years 2005, 2010, 2015 and 2020. (4.4-70.)

Noise impacts in terms of CNEL vary among the receptor sites. While several sites experience increases, only a few achieve levels above 60 CNEL, with the number increasing during each successive phase with increased aircraft operations. During Phase 1, two locations experience levels above 60 CNEL, those designated EO and LMA. Site EO is located north of the MCAS El Toro site under the departure pattern for Runway 34. This site is currently undeveloped land owned by The Irvine Company in unincorporated Orange County. This is not considered an incompatible use. Noise levels at site EO would rise to 65.7 during Phase 2 and 67.0 during Phase 3.

Table 4.4-29a
Land Use Comparison Table, Military, CRP and Alternative B Year 2005, 2010, 2015, and 2020

(area in square miles)

	AICUZ (PIL)	1994	1998	Year 2020	Alternative B, By Year				
	Military*	Military*	Military	CRP Alt A*	2005	2010	2015	2020	No Project
Square Miles Within Contour:									
- 60 CNEL Contour	50.0	30.5	16.6	20.3	10.4	19.2	22	22	0
- 65 CNEL Contour	28.8	18.9	6.3	9.1	4.2	8.2	9.8	9.8	0
- 70 CNEL Contour	21.6	27.0	3	5.5	1.7	3.2	3.9	3.9	0
Square Miles Within Contour On Base:									
- 60+ CNEL Contour	7.3	6.7	6.3	6.2	5	5.9	6.1	6.4	0
- 65+ CNEL Contour	7.0	6.0	4.8	4.8	3.3	4.5	4.7	4.9	0
- 70+ CNEL Contour	6.4	5.2	2.9	3.2	1.7	2.9	3.1	3.2	0
Square Miles of Residential:									
- 60+ CNEL Contour	7.0	1.8	0.3	0.8	0	0.3	0.6	0.7	0
- 65+ CNEL Contour	0.8	0.2	0.0	0.1	0	0	0	0	0
- 70+ CNEL Contour	0.0	0.1	0.0	0.0	0	0	0	0	0
Number of Residences Inside Contour:									
- 60+ CNEL Contour	18368	4723	672	2034	0	787	1574	1837	0
- 65+ CNEL Contour	2099	630	0	318	0	0	0	0	0
- 70+ CNEL Contour	0	330	0	0	0	0	0	0	0
Number of Public Schools Inside Contour:									
- 60 to 65 CNEL Contour	15	4	0	1	1 on base	1 on base	1	1	0
- 65 to 70 CNEL Contour	1 onbase	1onbase	1 on base	1	0	0	1 on base	0	0
- inside 70 CNEL Contour	0	0	0	0	0	0	0	0	0
Number of Private Schools Inside Contour:									
- 60 to 65 CNEL Contour	7	4	4	3	1	3	3	3	0
- 65 to 70 CNEL Contour	5	1	0	1	0	0	1	1	0
- inside 70 CNEL Contour	0	0	0	0	0	0	0	0	0
Number of Colleges Inside Contour:									
- 60 to 65 CNEL Contour	1	0	0	0	0	0	0	0	0
- 65 to 70 CNEL Contour	0	0	0	0	0	0	0	0	0
- inside 70 CNEL Contour	0	0	0	0	0	0	0	0	0
Number of Hospitals Inside Contour:									
- 60 to 65 CNEL Contour	0	0	0	0	0	0	0	0	0
- 65 to 70 CNEL Contour	0	0	0	0	0	0	0	0	0
- inside 70 CNEL Contour	0	0	0	0	0	0	0	0	0
Number of Churches Inside Contour:									
- 60 to 65 CNEL Contour	2	5	12	4	2	11	12	13	0
- 65 to 70 CNEL Contour	13	6	0	8	0	0	2	3	0
- inside 70 CNEL Contour	1	2	0	0	0	0	0	0	0

* Data from updated land use database from EIR 573.

Table 4.4-30a
Comparison of CNEL, Alternative B Years 2005, 2010, 2015, and 2020

Location	2005	2010	2015	2020
AH1	49.6	55.2	56.6	56.0
ANH	53.5	57.9	58.8	59.2
AV1	56.8	59.2	60.1	60.5
AV2	55.1	60.5	61.4	61.7
AV3	56.3	58.6	59.5	59.9
AV4	56.4	59.8	60.7	61.2
CC1	50.5	53.0	53.7	53.8
CH1	30.2	34.0	35.2	35.0
DP1	50.0	53.5	54.4	55.0
DP2	47.7	51.1	52.0	52.6
EO	60.0	65.7	67.0	66.3
FE	52.4	57.2	58.1	58.5
FR1	55.1	57.5	58.1	59.4
FRE	53.8	56.3	56.9	58.2
I1	53.8	56.8	57.9	57.6
I2	46.2	49.2	50.3	50.2
I3	41.5	44.4	45.4	45.7
I4	38.8	41.8	42.7	42.8
I5	40.9	43.8	44.8	45.4
I6	32.5	36.4	37.5	37.4
IMC	41.6	44.4	45.3	45.8
LB1	40.8	43.3	44.3	44.6
LB2	46.6	49.6	50.6	51.0
LF1	46.8	51.3	52.1	52.4
LF2	45.6	50.2	51.2	51.1
LF3	53.6	56.1	56.8	56.0
LF4	55.5	58.0	58.6	57.9
LF5	54.0	56.5	57.1	56.7
LH1	40.4	44.2	45.1	45.5
LMA	61.5	63.3	64.2	64.5
LN1	54.4	57.8	58.8	59.2
LN2	47.2	51.6	52.5	52.9
LW1	56.8	58.0	58.8	59.1
LW2	55.9	62.2	63.1	63.4
MHE	56.6	59.1	59.8	59.8
MJD	56.7	59.9	60.8	61.2
MV1	53.3	55.8	56.4	56.1
MV2	58.3	60.7	61.4	61.4
MVC	59.6	63.7	64.6	65.0
O1	43.7	47.0	48.0	48.1
OC1	53.6	54.7	55.6	55.8
OC2	58.6	59.9	60.7	61.1
OC3	55.8	61.5	62.4	62.7
OKE	49.3	51.1	52.0	52.4
PH1	56.9	59.3	60.0	60.6
SCC	58.3	60.7	61.4	60.8
SM1	57.0	59.4	60.1	60.2
SM2	55.9	58.4	59.0	58.9
SM3	54.0	56.4	57.1	57.3
SM4	46.5	49.0	49.6	50.2
SM5	47.5	50.0	50.6	50.6
SMA	55.5	58.8	59.7	60.2
T1	41.2	44.2	45.3	45.2
WCE	52.2	56.3	57.2	57.6

Noise impacts in terms of CNEL vary among the receptor sites. While several sites experience increases, only a few achieve levels above 60 CNEL, with the number increasing during each successive phase with increased aircraft operations. During Phase 1, two locations experience levels above 60 CNEL, those designated EO and LMA. Site EO is located north of the MCAS El Toro site under the departure pattern for Runway 34. This site is currently undeveloped land owned by The Irvine Company in unincorporated Orange County. This is not considered an incompatible use. Noise levels at site EO would rise to 65.7 during Phase 2 and 67.0 during Phase 3.

Site LMA is a private school in a commercial area. Significantly, noise levels at the LMA location under 1998 conditions are 63.7 CNEL. During Phase 1, that level actually would decrease to 61.5, while rising to 63.3 during Phase 2 and 64.2 during Phase 3. The question of significant impacts for this site is resolved by the conditions of the Use Permit for the establishment, which requires that the school have no outdoor uses and be insulated to protect it from military noise higher than the forecast civilian use noise. In other words, the existing legal conditions of use impose limitations which would be expected to, and were intended to, ensure compatibility with the forecast noise levels and aviation activity. Site MVC is also a private school in a commercial area operating under a Use Permit similar to site LMA. Noise levels at MVC are 63.4 during 1998 conditions; they drop to 59.6 during Phase 1, and rise to 63.7 and 64.6 during Phases 2 and 3, respectively.

Site LW2, a residential area in Laguna Woods, would experience a decrease in CNEL of 5 dBA during Phase 1, and increases of 2.2 dBA or less during Phases 2 and 3, but no increase in CNEL above 65 dBA. Sites AV2, MV2, MVC, OC3 and SCC would experience CNEL levels above 60 dBA under Phase 2 and Phase 3. Sites AV1, AV4, OC2, PH1 and SM1 would experience noise levels above 60 dBA during Phase 3 only.

"In the approach corridor from the south, and the departure corridor to the east, most residential receptor locations will experience little differences in CNEL relative to 1998 military operations under the Proposed Project. Most changes range only between plus or minus one or two dBA CNEL during Phases 2 and 3, depending on the receptor location. These differences would be imperceptible to the average human, and none of the increases raise levels above 65 CNEL." (4.4-73.)

"In the west corridor, where the military conducted FCLP operations, CNEL under the Proposed Project during the phasing years will decrease by as much as 12 dBA." (4.4-73.)

11.3.4.4 SENEL Contours for the Proposed Project

"[Draft EIR No. 573] Figures 4.4-38, 4.4-39 and 4.4-40 provide 86dB SENEL noise contours for normal runway use conditions. ... Examination of the civilian SENEL contours indicate they are smaller than those for the military F/A-18 shown on Figure 4.4.-14. With the exception of the noisiest aircraft such as the 747-400, the MD-83 and the hushkitted 727, the 86dBA SENEL contours are contained within the noise buffer zone created by the AICUZ and the

County's land use PIL. The relative noisier aircraft are those forecasted to use OCX the least. The hushkitted 727 will use OCX under the Proposed Project only in the interim years and at relatively low activity levels. The 747-400 and MD-83 account for five percent of the departures on Runway 07 and six percent of the arrivals on Runway 34. Therefore, for the great majority of civilian aircraft using OCX under the Proposed Project, the 86 dBA SENEL contours will be confined to the existing noise buffer zone." (4.4-74.)

This conclusion applies equally during the interim phasing years since the SENEL contours are aircraft-specific and, therefore, are the same during project build out as they are during the phasing years. This is because SENEL contours are based on single events of specific types of aircraft (e.g., 7373B2s, 757PWs). The fleet mix at OCX during each of the phasing years essentially is the same as the fleet mix during build out of the Proposed Project. (See Draft EIR No. 573 Tables 4.4-26 and 4.4-27.)

11.3.4.5 SENEL at Receptor Locations for the Proposed Project

The discussion presented in Draft EIR No. 573 at pages 4.4-74 - 77 with respect to SENEL at receptor locations applies equally to the proposed project during the interim phasing years, as well as project build out. This is because the SENEL impacts at receptor locations are essentially the same during project build out as they are during the phasing years. As previously discussed, SENEL contours are derived based on single events of specific types of aircraft, e.g., 7373B2s, 757PWs. Because the fleet mix at OCX during each of the phasing years essentially is the same as the fleet mix during build out of the Proposed Project, the SENEL at receptor locations essentially is the same for both. (See Draft EIR No. 573 Tables 4.4-26 and 4.4-27.) See Draft EIR No. 573, pages 4.4-74 through 4.4-77 for complete discussion regarding SENEL at receptor locations for the Proposed Project.

11.3.4.6 Time Above Threshold Noise Levels for the Proposed Project

"[A] comparison based upon CNEL levels, as provided above, is the accepted standard and the only statistically significant methodology for predicting long-term community response to an airport noise environment. To assist in comparing the Proposed Project [during the phasing years] to the existing military operations and to further describe the noise environment associated with the Proposed Project, a Time Above ("TA") analysis was conducted." (4.4-78.)

"Tables 4.4-34a and 4.4-34b compare time above thresholds data for the Proposed Project for the years 2005, 2010, 2015 and 2020 for exposure over 24 hours and night time hours, respectively." (4.4-78.) During a 24-hour period, at the 85 dBA TA level, the Proposed Project during Phase 1, Phase 2 and Phase 3 creates impacts only at site EO and this site is undeveloped. The military aircraft show levels above 85 dBA at 28 sites. (See Draft EIR No. 573 Table 4.4-34 for 1998 military TA.)

Table 4.4-34a
Time Above Data for Year 2020 Alternative B at Sensitive Receptor Locations
Compared with Years 2005, 2010 and 2015, 24 Hour Exposure

Location	Year 1998 24 Hours Minutes Above			Year 2005 24 Hours Minutes Above			Year 2010 24 Hours Minutes Above			Year 2015 24 Hours Minutes Above			Year 2020 24 Hours Minutes Above		
	65 dBA	77 dBA	85 dBA	65 dBA	77 dBA	85 dBA	65 dBA	77 dBA	85 dBA	65 dBA	77 dBA	85 dBA	65 dBA	77 dBA	85 dBA
AH1	0.0	0.0	0.0	2.9	0.0	0.0	6.5	0.4	0.0	8.6	0.6	0.0	9.6	0.3	0.0
ANH	18.3	3.4	0.2	9.6	0.0	0.0	30.2	0.1	0.0	36.3	0.2	0.0	41.1	0.1	0.0
AV1	18.4	5.4	0.5	19.9	0.1	0.0	35.0	0.5	0.0	41.8	0.8	0.0	47.3	0.5	0.0
AV2	18.6	5.3	0.5	16.0	0.0	0.0	44.4	0.9	0.0	52.6	1.3	0.0	59.8	0.9	0.0
AV3	18.7	5.5	0.4	20.6	0.0	0.0	34.8	0.3	0.0	41.6	0.5	0.0	47.1	0.3	0.0
AV4	18.8	6.0	0.5	20.9	0.0	0.0	43.6	0.8	0.0	51.4	1.1	0.0	58.6	0.7	0.0
CC1	3.8	0.4	0.0	3.2	0.0	0.0	5.6	0.0	0.0	6.7	0.0	0.0	7.1	0.0	0.0
CH1	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DP1	19.3	1.1	0.0	1.2	0.0	0.0	5.8	0.0	0.0	8.5	0.0	0.0	9.6	0.0	0.0
DP2	18.4	0.6	0.0	0.3	0.0	0.0	2.5	0.0	0.0	3.8	0.0	0.0	3.9	0.0	0.0
EO	0.5	0.0	0.0	9.6	1.9	0.3	20.5	4.4	1.0	25.7	5.8	1.4	29.4	6.1	1.1
FE	17.6	2.2	0.1	4.8	0.0	0.0	24.1	0.1	0.0	29.5	0.1	0.0	33.1	0.1	0.0
FR1	7.6	1.6	0.5	8.9	0.2	0.0	16.3	0.3	0.0	18.8	0.3	0.0	25.3	0.7	0.0
FRE	7.0	1.5	0.4	7.4	0.0	0.0	13.3	0.0	0.0	15.4	0.0	0.0	21.1	0.2	0.0
II	7.8	0.8	0.2	7.3	0.3	0.0	12.6	0.3	0.0	16.0	0.3	0.0	17.0	0.2	0.0
I2	9.1	0.9	0.1	0.8	0.0	0.0	0.9	0.0	0.0	1.1	0.0	0.0	0.6	0.0	0.0
I3	9.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I4	8.7	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I5	14.0	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I6	2.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IMC	13.2	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LB1	1.6	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0
LB2	17.7	0.1	0.0	0.1	0.0	0.0	1.4	0.0	0.0	2.1	0.0	0.0	1.5	0.0	0.0
LF1	11.4	0.6	0.0	0.3	0.0	0.0	1.7	0.0	0.0	2.4	0.0	0.0	1.9	0.0	0.0
LF2	13.1	0.0	0.0	0.1	0.0	0.0	0.4	0.0	0.0	0.4	0.0	0.0	0.3	0.0	0.0
LF3	7.4	1.5	0.2	6.5	0.0	0.0	11.5	0.0	0.0	13.4	0.0	0.0	11.0	0.0	0.0
LF4	6.9	1.6	0.4	10.3	0.2	0.0	18.9	0.3	0.0	21.8	0.3	0.0	20.0	0.1	0.0
LF5	6.0	1.3	0.0	6.8	0.1	0.0	12.2	0.1	0.0	14.3	0.1	0.0	13.6	0.0	0.0
LH1	2.8	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.2	0.0	0.0
LMA	19.2	6.9	1.3	31.4	2.1	0.0	54.8	3.8	0.1	64.8	5.1	0.1	74.6	5.2	0.0
LN1	18.4	5.2	0.3	14.3	0.0	0.0	31.7	0.1	0.0	38.0	0.1	0.0	43.7	0.0	0.0
LN2	14.9	0.5	0.0	0.2	0.0	0.0	2.5	0.0	0.0	3.7	0.0	0.0	2.9	0.0	0.0
LW1	18.4	3.5	0.3	22.6	0.1	0.0	26.2	0.2	0.0	31.6	0.3	0.0	35.4	0.2	0.0
LW2	18.1	4.4	0.6	19.8	0.1	0.0	51.3	2.1	0.0	60.4	2.9	0.0	69.5	2.7	0.0
MHE	5.8	1.8	0.0	10.1	0.6	0.0	18.4	1.0	0.0	21.7	1.1	0.0	25.1	0.8	0.0
MJD	18.8	6.1	0.6	21.6	0.1	0.0	43.5	0.8	0.0	51.4	1.2	0.0	58.6	0.8	0.0
MV1	4.9	1.1	0.0	5.6	0.1	0.0	9.9	0.1	0.0	11.7	0.2	0.0	11.2	0.1	0.0

Location	Year 1998 24 Hours Minutes Above			Year 2005 24 Hours Minutes Above			Year 2010 24 Hours Minutes Above			Year 2015 24 Hours Minutes Above			Year 2020 24 Hours Minutes Above		
	65 dBA	77 dBA	85 dBA	65 dBA	77 dBA	85 dBA	65 dBA	77 dBA	85 dBA	65 dBA	77 dBA	85 dBA	65 dBA	77 dBA	85 dBA
MV2	9.2	2.6	0.4	13.9	1.0	0.0	25.7	1.7	0.0	30.0	1.9	0.0	34.8	1.5	0.0
MVC	19.5	6.9	0.8	28.1	0.5	0.0	59.6	3.8	0.0	70.4	5.3	0.0	81.3	5.2	0.0
O1	0.4	0.0	0.0	0.8	0.0	0.0	1.3	0.0	0.0	1.5	0.0	0.0	1.7	0	0.0
OC1	18.2	2.2	0.3	8.4	0.1	0.0	9.2	0.1	0.0	11.8	0.1	0.0	12.3	0.1	0.0
OC2	18.7	4.9	0.6	26.9	0.2	0.0	37.8	0.8	0.0	45.0	1.2	0.0	51.2	0.8	0.0
OC3	18.7	4.8	0.6	19.1	0.0	0.0	49.1	1.6	0.0	57.9	2.3	0.0	65.5	2	0.0
OKE	14.4	0.7	0.0	0.6	0.0	0.0	2.0	0.0	0.0	2.8	0.0	0.0	2.3	0	0.0
PH1	8.6	3.1	0.7	11.1	0.7	0.0	20.4	1.1	0.0	23.8	1.3	0.0	29.5	1.3	0.0
SCC	8.7	1.8	0.5	14.8	0.9	0.0	27.2	1.5	0.0	31.5	1.7	0.0	32.5	1.1	0.0
SM1	6.8	2.0	0.2	10.9	0.7	0.0	20.0	1.1	0.0	23.5	1.2	0.0	27.8	0.9	0.0
SM2	5.6	1.5	0.0	8.4	0.4	0.0	15.2	0.6	0.0	18.2	0.6	0.0	20.1	0.4	0.0
SM3	5.4	1.5	0.0	5.4	0.1	0.0	9.7	0.1	0.0	11.8	0.1	0.0	13.6	0.1	0.0
SM4	2.8	0.1	0.0	0.5	0.0	0.0	0.8	0.0	0.0	0.8	0.0	0.0	1	0	0.0
SMS	2.4	0.1	0.0	0.9	0.0	0.0	1.4	0.0	0.0	1.6	0.0	0.0	1.4	0	0.0
SMA	18.8	5.8	0.5	18.0	0.0	0.0	37.2	0.4	0.0	44.0	0.6	0.0	50.4	0.4	0.0
T1	0.5	0.0	0.0	0.2	0.0	0.0	0.3	0.0	0.0	0.4	0.0	0.0	0.4	0	0.0
WCE	17.7	1.9	0.0	4.6	0.0	0.0	19.1	0.0	0.0	23.6	0.0	0.0	26.6	0	0.0

Table 4.4-34b
Time Above Data for Year 2020 Alternative B at Sensitive Receptor Locations
Compared With Years 2005, 2010 and 2015, Night Hours Only (10pm - 7am)

Location	Year 1998 Night Hours Only Minutes Above			Year 2005 Night Hours Only Minutes Above			Year 2010 Night Hours Only Minutes Above			Year 2015 Night Hours Only Minutes Above			Year 2020 Night Hours Only Minutes Above		
	65 dBA	77 dBA	85 dBA	65 dBA	77 dBA	85 dBA	65 dBA	77 dBA	85 dBA	65 dBA	77 dBA	85 dBA	65 dBA	77 dBA	85 dBA
AH1	0.0	0.0	0.0	0.7	0	0	1.9	0.2	0.0	2.5	0.2	0.0	2.7	0.1	0
ANH	0.5	0.0	0.0	1.7	0	0	4.4	0.0	0.0	5.3	0.0	0.0	6	0	0
AV1	0.5	0.0	0.0	3.2	0	0	5.1	0.0	0.0	6.0	0.0	0.0	6.9	0	0
AV2	0.5	0.0	0.0	2.6	0	0	6.4	0.1	0.0	7.6	0.1	0.0	8.6	0.1	0
AV3	0.5	0.0	0.0	3.4	0	0	5.1	0.0	0.0	6.0	0.0	0.0	6.9	0	0
AV4	0.5	0.0	0.0	3.4	0	0	6.3	0.0	0.0	7.4	0.0	0.0	8.5	0	0
CC1	0.0	0.0	0.0	0.9	0	0	1.5	0.0	0.0	1.8	0.0	0.0	1.8	0	0
CHI	0.0	0.0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
DPI	0.5	0.0	0.0	0.3	0	0	0.7	0.0	0.0	1.0	0.0	0.0	1.3	0	0
DP2	0.5	0.0	0.0	0	0	0	0.2	0.0	0.0	0.2	0.0	0.0	0.4	0	0
EO	0.0	0.0	0.0	1.6	0.4	0.1	4.1	1.3	0.3	5.3	1.8	0.5	6.1	1.8	0.4
FE	0.5	0.0	0.0	1	0	0	3.5	0.0	0.0	4.2	0.0	0.0	4.8	0	0
FR1	0.0	0.0	0.0	2.2	0	0	3.8	0.1	0.0	4.5	0.1	0.0	5.8	0.2	0
FRE	0.0	0.0	0.0	1.8	0	0	3.2	0.0	0.0	3.7	0.0	0.0	4.9	0	0
I1	0.0	0.0	0.0	1.4	0.1	0	3.1	0.1	0.0	4.0	0.1	0.0	4.2	0.1	0
I2	0.0	0.0	0.0	0.1	0	0	0.3	0.0	0.0	0.4	0.0	0.0	0.2	0	0
I3	0.0	0.0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
I4	0.0	0.0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
I5	0.0	0.0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
I6	0.0	0.0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
IMC	0.0	0.0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
LB1	0.1	0.0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
LB2	0.5	0.0	0.0	0	0	0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0	0
LF1	0.3	0.0	0.0	0	0	0	0.1	0.0	0.0	0.2	0.0	0.0	0.1	0	0
LF2	0.1	0.0	0.0	0	0	0	0.1	0.0	0.0	0.1	0.0	0.0	0	0	0
LF3	0.0	0.0	0.0	1.7	0	0	2.9	0.0	0.0	3.4	0.0	0.0	2.7	0	0
LF4	0.0	0.0	0.0	2.5	0	0	4.3	0.1	0.0	5.1	0.1	0.0	4.7	0	0
LF5	0.0	0.0	0.0	1.8	0	0	3.1	0.0	0.0	3.6	0.0	0.0	3.4	0	0
LH1	0.1	0.0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
LMA	0.6	0.0	0.0	4.9	0.5	0	7.8	0.5	0.0	9.2	0.7	0.0	10.5	0.7	0
LN1	0.5	0.0	0.0	2.4	0	0	4.6	0.0	0.0	5.5	0.0	0.0	6.3	0	0
LN2	0.4	0.0	0.0	0	0	0	0.2	0.0	0.0	0.3	0.0	0.0	0.3	0	0
LW1	0.5	0.1	0.0	3.6	0	0	3.7	0.0	0.0	4.5	0.0	0.0	5	0	0
LW2	0.5	0.1	0.0	3.2	0	0	7.3	0.3	0.0	8.6	0.4	0.0	9.8	0.4	0
MHE	0.0	0.0	0.0	2.6	0.2	0	4.4	0.3	0.0	5.3	0.3	0.0	6	0.2	0
MJD	0.5	0.0	0.0	3.5	0	0	6.3	0.0	0.0	7.4	0.0	0.0	8.5	0	0
MV1	0.0	0.0	0.0	1.5	0	0	2.5	0.0	0.0	3.0	0.0	0.0	2.8	0	0
MV2	0.0	0.0	0.0	3.3	0.3	0	5.7	0.5	0.0	6.8	0.5	0.0	7.9	0.4	0
MVC	0.6	0.0	0.0	4.5	0.1	0	8.4	0.6	0.0	9.9	0.7	0.0	11.4	0.8	0

Location	Year 1998 Night Hours Only Minutes Above			Year 2005 Night Hours Only Minutes Above			Year 2010 Night Hours Only Minutes Above			Year 2015 Night Hours Only Minutes Above			Year 2020 Night Hours Only Minutes Above		
	65 dBA	77 dBA	85 dBA	65 dBA	77 dBA	85 dBA	65 dBA	77 dBA	85 dBA	65 dBA	77 dBA	85 dBA	65 dBA	77 dBA	85 dBA
O1	0.0	0.0	0.0	0.1	0	0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0	0
OC1	0.5	0.1	0.0	1.5	0	0	1.2	0.0	0.0	1.5	0.0	0.0	1.6	0	0
OC2	0.5	0.1	0.0	4.3	0.1	0	5.4	0.1	0.0	6.4	0.1	0.0	7.2	0.1	0
OC3	0.6	0.0	0.0	3.1	0	0	7.0	0.2	0.0	8.3	0.3	0.0	9.4	0.3	0
OKE	0.4	0.0	0.0	0.1	0	0	0.2	0.0	0.0	0.2	0.0	0.0	0.2	0	0
PH1	0.2	0.0	0.0	2.6	0.2	0	4.6	0.3	0.0	5.4	0.3	0.0	6.6	0.3	0
SCC	0.1	0.0	0.0	3.5	0.2	0	6.1	0.4	0.0	7.2	0.5	0.0	7.4	0.3	0
SM1	0.1	0.0	0.0	2.7	0.2	0	4.6	0.3	0.0	5.5	0.4	0.0	6.5	0.2	0
SM2	0.0	0.0	0.0	2.2	0.1	0	3.8	0.2	0.0	4.6	0.2	0.0	5.1	0.1	0
SM3	0.0	0.0	0.0	1.5	0	0	2.6	0.0	0.0	3.2	0.1	0.0	3.5	0	0
SM4	0.0	0.0	0.0	0.1	0	0	0.2	0.0	0.0	0.2	0.0	0.0	0.2	0	0
SM5	0.0	0.0	0.0	0.2	0	0	0.4	0.0	0.0	0.4	0.0	0.0	0.3	0	0
SMA	0.5	0.0	0.0	3	0	0	5.4	0.0	0.0	6.4	0.0	0.0	7.3	0	0
T1	0.0	0.0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
WCE	0.5	0.0	0.0	0.9	0	0	2.8	0.0	0.0	3.4	0.0	0.0	3.9	0	0

During a 24-hour period, at the 77 dBA TA level the Proposed Project during the phasing years increases exposure at sites AH1 during Phase 2 and Phase 3, and at EO during all 3 Phases, and reduces exposures at all the other sites.

During a 24-hour period, at the 65 dBA level, the Proposed Project decreases exposure at 19 sites and increases exposure at 35 sites during Phase 2 relative to 1998 conditions.

During night hours, at the 85 dBA level, the Proposed Project creates no sites with this level during any of the phasing years. During night hours, at the 77 dBA level, the Proposed Project creates additional exposure at 16 sites during Phase 2 while decreasing exposure levels at two sites. During night hours at the 65 dBA level at Phase 2, the Proposed Project reduces exposure at 7 sites, makes no change at 8 sites, and increases exposure at the remaining 39 sites.

11.3.4.7 Summary of Aviation Noise Impacts Under the Proposed Project

“Implementation of the Proposed Project would not result in any existing residential uses inside the project case 2020 65 CNEL contour, or any interim year contours.” (4.4.-91.)

“Lower cumulative and single event noise levels, but more noise events’ best summarizes the differences between existing military operations at the MCAS El Toro site and the civilian aircraft operations at OCX under the Proposed Project [at the Phase 2 implementation level]. With the exception of the North Corridor (Runway 34 departures) where civilian aircraft will fly where military aircraft did not, there are general decreases in the higher levels of CNEL and SENEL in terms of both contours and at sensitive receptor sites. The noise increases in the Northern Corridor do not affect incompatible land uses. However, as discussed in [Draft EIR No. 573] Section 4.2 and in the discussion related to Mitigation Measure GPC-2, aviation noise impacts from the Proposed Project [at the Phase 2 implementation level] in the vicinity of MCAS El Toro would not be considered significant. The Proposed Project would not result in any significant aviation noise impacts in the vicinity of El Toro, and is expected generally to result in lower noise levels and effects than the existing conditions around JWA.

“Although the analysis indicates that the project would not result in any significant aviation noise impacts in the vicinity of El Toro by reference to traditional, adopted, or generally accepted significance criteria, the findings adopted for EIR No. 563 concluded that a civilian airport at MCAS El Toro would result in significantly greater numbers of total operations at the base compared to historical military levels of use, both throughout the day and during the nighttime hours. Although the Proposed Project analyzed in this study forecasts significantly fewer operations than would have occurred under the community reuse plan analyzed in EIR No. 563, the number of forecast civilian operations is still substantially greater than the “baseline” level of military operations. (EIR No. 563 compared the reuse plan project to a 1994 military operations level. This study compares the proposed project to the 1998 level of military operations, which was smaller than the 1994 level of activity.)

“As discussed earlier, the CNEL calculation factors in the number of daily operations and assigns a ‘penalty weighting’ to operations occurring during the nighttime hours (10 p.m. to 7 a.m.). However, the substantial increase in the absolute number of operations to and from El Toro under the Proposed Project, [at build out and at the Phase 2 implementation level] particularly during nighttime hours, is still of sufficient magnitude compared to the level of military activity that it will be considered a significant impact of the project independent of the CNEL computation and established thresholds of significance. Although there is no established threshold of significance, and although the available data indicate that any risk of project caused sleep disturbance during nighttime hours would be low, the potential for sleep disturbance during nighttime operations will be treated as a significant impact for purposes of analyzing possible mitigation measures later in this section.” (4.4-91-92.)

11.3.4.8 Surface Ground Transportation Noise

Long Term Ground Transportation Noise Impacts

The assessment of long-term ground transportation noise impacts associated with the Proposed Project, as presented in Draft EIR No. 573, assumes vehicle levels commensurate with Phase 4 build out of the proposed project utilizing the existing conditions roadway infrastructure. (4.4-92.) This methodology results in impacts presented under a worse case scenario. Ground transportation noise impacts associated with the Proposed Project during the interim phasing years, including Phase 2, will be less proportionately than those at Phase 4 due to the proportionate reduction in vehicle trips occurring during the interim years. However, this supplemental analysis assumes significant impacts at the Phase 2 level where also identified at Phase 4. See Draft EIR No. 573, pages 4.4-92 through 4.4-140 for complete discussion regarding long-term ground transportation noise impacts under the Proposed Project.

11.3.4.9 Short-Term Construction Noise Impacts from Road Improvements

"Road improvements may be required at [certain] locations and short term noise impacts on sensitive land uses may occur during construction of these improvements. County of Orange standard requirements for construction noise mitigation would apply during the construction of these improvements as described [in Draft EIR No. 573]. In addition, a mitigation measure is provided ... to mitigate potential short term noise impacts during construction of off-site road improvements under the Proposed Project." (4.4-141.) This conclusion is unaffected by the project phasing and applies equally to the Proposed Project at the Phase 2 implementation level.

11.3.4.10 Proposed Mitigation Measures

“The following noise mitigation measures, not already part of the Proposed Project, are proposed for adoption and implementation as part of the project:

- N-6 The County will participate in a fair share program to construct or extend existing sound walls at relevant portions of Trabuco Road between Yale and Jeffrey Road, and along Jeffrey Road just south of Irvine Boulevard, to reduce project caused traffic noise levels in any residential property to a level at or below 65 CNEL.
- N-7 For all project construction, the County will adhere to the County Noise Ordinance and, for off-site improvements in any incorporated areas, any existing applicable local jurisdiction noise ordinances regulating construction noise.
- N-8 The County will construct and implement a noise monitoring system at OCX prior to the opening for public use of the passenger terminal facilities contemplated under the Proposed Project to be completed by the end of Phase 1 of the Proposed Project (2005). This noise monitoring system will include remote microphone stations at locations substantially as shown in Figure 4.4-52 of EIR No. 573. In addition, upon completion and County acceptance of the noise monitoring system, the County will implement a noise complaint and administration program and staffing comparable to its existing program at JWA.
- N-9 Prior to the initiation of scheduled commercial operations at El Toro, the County will implement an 86 dB SENEL noise mitigation restriction for El Toro during the hours of 11:00 p.m. and 7:00 a.m. The noise level limit will be based upon quarterly energy average SENEL values for scheduled commercial operators by operator and aircraft type and will be enforced at the remote microphone stations installed and monitored pursuant to mitigation measure N-8.” (4.4-183.)

11.3.4.11 Level of Significance After Mitigation

“Implementation of the proposed mitigation measures will result in the following levels of significance:

- Construction noise will be reduced to a level less than significant.
- Highway noise will be reduced to a level less than significant. [In the event off-site improvements proposed under Mitigation Measure N-6 are not implemented by the jurisdiction in which the improvements are located, the impacts at those unimproved locations will remain significant and unavoidable.¹]

¹ Underlined text is new text added to Draft No. 573, Section 4.4.9, unrelated to this supplemental phasing analysis. See Chapter 6.0, Other Environmental Issues, *infra*.

- No mitigation is proposed for the increase in aircraft operations, because mitigation to reduce aircraft operations would not be compatible with the project objectives. Therefore, these impacts remain significant and unavoidable. (See Alternatives A, H, and I in Chapter 8.0 for analysis of reduced aircraft operations.)
- Mitigation is proposed for the increase in nighttime operations and the resulting increase in the risk of sleep disturbance and impacts are reduced; however, these impacts remain significant and unavoidable.” (4.4-183-184.)

11.3.5 Air Quality

Chapter 2.0 of the supplemental analysis to Draft EIR No. 573 evaluates in detail the potential air quality impacts associated with the Proposed Project under each development scenario (i.e., Phase 1, Phase 2, Phase 3, and Phase 4) for the MCAS El Toro site and John Wayne Airport site. The Air Quality Technical Report (Appendix N) to the supplemental analysis provides additional detail on the methodologies used to estimate emissions, analyze ambient air quality concentrations, and identify mitigation options for each of these development scenarios.

The air quality analysis focuses on four areas of concern: short-term impacts (construction), total operational emissions impacts (regional air quality), local air quality impacts due to traffic carbon monoxide (CO), and local air quality impacts due to aircraft and associated operations. The analysis measures the Proposed Project’s impacts and their significance against existing physical conditions. A summary of the conclusions in this analysis with respect to the Proposed Project’s impacts on Phase 2 of project development is provided below.

11.3.5.1 Unmitigated Short-Term Impacts (Construction Emissions)

Although construction impacts are temporary in nature, the Proposed Project would result in significant and unavoidable construction air quality impacts under each development scenario based on the preliminary estimates of construction phasing and projected construction activity levels. Table 5.3.5-1 provides a summary of the unmitigated short-term construction impacts of the Proposed Project during Phase 1 and Phase 2 of construction. As this table indicates, emissions associated with construction traffic and equipment exhaust fluctuate between different years during phase 1 and phase 2 of construction. Emissions would be greatest during the third year of each phase because the majority of construction work would occur during this year. The peak year for short-term emissions from construction under the Proposed Project is the third year of Phase 2. NO_x emissions would exceed the daily threshold of 100 pounds per day for construction during all years of construction in phases 1 and 2. CO emissions would exceed the daily threshold of 550 pounds per day during years 2, 3 and 4 of phases 1 and 2. ROC emissions would exceed the daily threshold of 75 pounds per day during years 2, 3, 4, and 5 of Phases 1 and 2. SO_x emissions are expected to exceed the daily threshold during year 2 of Phase 2.

**Table 5.3.5-1
Unmitigated Construction Traffic and Equipment Exhaust Emissions,
Proposed Project**

Scenario	Estimated Emission Rate (lb/day)				
	CO	ROC	NO _x	SO _x	PM ₁₀
Phase 1 – Year 1	469.9	66.8	856.9	78.4	39.5
Phase 1 – Year 2	871.9	114.4	1,340.9	119.4	79.1
Phase 1 – Year 3	961.8	136.4	1,155.3	106.1	66.6
Phase 1 – Year 4	908.1	1,705.9	1,009.7	85.6	51.5
Phase 1 – Year 5	246.1	6,757.9	203.9	16.9	9.6
Phase 2 – Year 1	320.9	38.1	599.4	50.4	31.5
Phase 2 – Year 2	1,045.0	127.0	1,858.2	174.5	118.1
Phase 2 – Year 3	1,195.9	154.9	1,608.4	154.4	99.5
Phase 2 – Year 4	747.8	1,308.7	864.2	72.8	41.1
Phase 2 – Year 5 (Half a year of Construction Activity)	421.9	8,169.4	654.1	57.0	30.3
SCAQMD Construction Threshold	550	75	100	150	150

Source: P&D Consultants and LSA Associates, Inc., 2001.

NOTE: [1] Numbers in bold represent emissions that exceed the SCAQMD thresholds for construction.

Although particulate emissions from vehicle and equipment exhaust are not expected to exceed the daily threshold, they need to be combined with fugitive dust emissions from other sources. Table 5.3.5-2 shows the estimated total daily fugitive dust emissions from demolition, grading, hauling/transport, excavation, dumping/reclamation, and other soil disturbance activities by phase and year for the first two phases of construction. Similar to construction traffic and equipment exhaust emissions, daily fugitive dust emissions also fluctuate between the phases and between the years within a construction phase. As can be seen in Table 5.3.5-2, the third year of Phase 2 would have the highest daily fugitive dust emission level of all construction years. Total daily fugitive dust emissions associated with construction of the Proposed Project during all of the construction years during the first two phases would also exceed the SCAQMD threshold of 150 pounds per day. These exceedances are reflected in bold type in Table 5.3.5-2.

In addition to these exceedances of the SCAQMD thresholds, the Proposed Project would also result in significant construction concentrations for PM₁₀, NO₂, and CO at a number of receptor locations during peak years for each pollutant. These peak year concentrations would occur close to the fence line and decrease as the plume spreads out from the property. See Draft Supplemental Analysis, Chapter 2.0, Air Quality Analysis, Figures 2-4 through 2-7 and Tables 2-18 through 2-20.

**Table 5.3.5-2
Unmitigated Fugitive Dust Emissions, Proposed Project**

Scenario	Fugitive Dust Emission (lb/day)
Phase 1 – Year 1	662.2
Phase 1 – Year 2	1,159.1
Phase 1 – Year 3	1,352.9
Phase 1 – Year 4	1,266.5
Phase 1 – Year 5 (Half a year of Construction Activity)	244.9
Phase 2 – Year 1	198.6
Phase 2 – Year 2	1,882.2
Phase 2 – Year 3	2,116.6
Phase 2 – Year 4	1,146.8
Phase 2 – Year 5 (Half a year of Construction Activity)	481.9
SCAQMD Construction Threshold	150

Source: P&D Consultants and LSA Associates, Inc., 2001.

NOTE: [1] Numbers in bold represent emissions that exceed the SCAQMD thresholds for construction.

11.3.5.2 Unmitigated Operational Impacts

Aircraft and Associated Operations Impacts – The Proposed Project would not result in exceedances of either the California Ambient Air Quality Standards (CAAQS) or the National AAQS (NAAQS) at most of the receptor site locations during Phase 2 of project development. There would, however, be exceedances of the 1-hour State standard for NO₂ and a continued exceedance of the 24-hour State standard for PM₁₀ projected at a number of locations surrounding both OCX and JWA. The NO₂ and PM₁₀ impacts cannot be mitigated to a level below significance and would, therefore, remain significant and unavoidable. See Draft Supplemental Analysis, Chapter 2.0, Air Quality Analysis, Tables 2-33 through 2-37 and Figures 2-10 through 2-12.

Traffic CO Impacts – The Proposed Project would not result in any CO hot spots at intersections in the project vicinity under Phase 2 of project development. The Proposed Project, when added to the existing conditions (1998) roadway network and traffic conditions, would continue to expose receptors near two intersections in the project vicinity to eight-hour CO concentrations exceeding the State and federal standards under Phase 2 of project development. However, this exceedance is due primarily to high existing ambient eight-hour CO concentrations. The Proposed Project would not increase the frequency or severity of this CO exceedance. Therefore, the Proposed Project at Phase 2 of project development would not result in any significant local air quality impacts due to traffic CO hot spots.

Regional Impacts – The Proposed Project at Phase 2 of project development plus existing conditions (1998) when compared to existing conditions (1998) would result in exceedances of State and federal standards for all criteria pollutants (CO, NO_x, ROC, and PM₁₀). See Table 5.3.5-3. The Phase 2 project, when compared to Phase 2 of the No Project/No Build Alternative, however, would not result in ~~fewer any~~ regional air quality impacts. This is primarily due to locally generated demand being served at other regional airports under the No Project Alternative.

11.3.5.3 Proposed Mitigation Measures and Significance After Mitigation

A detailed description of proposed mitigation to mitigate the identified significant short-term (construction) air quality impacts is provided in Chapter 2.0, Section 2.10 of this Draft Supplemental Analysis. Tables 5.3.5-5 and 5.3.5-6 provide a summary of the mitigated construction traffic and equipment exhaust emissions for phases 1 and 2 of the Proposed Project. As can be seen from the tables, although a majority of the construction impacts can be mitigated to a level below the level of significance through implementation of proposed mitigation, NO_x emissions from traffic and equipment exhaust during years 2 and 3 of phase 2 of construction remain significant and unavoidable. Fugitive dust emissions remain significant and unavoidable even after implementation of proposed mitigation for every year of construction during the first two phases of project development except for year 1 of phase 2.

A detailed description of the proposed mitigation to mitigate the operational air quality impacts is also provided in Chapter 2.0, Section 2.10 of this Draft Supplemental Analysis. As can be seen from the tables provided in Chapter 2.0, although proposed mitigation can substantially reduce the local and regional air quality impacts of the Proposed Project in Phase 2 of project development, the exceedances of the 1-hour State standard for NO₂ and the continued exceedence of the 24-hour State standard for PM₁₀ from aircraft and associated operations and the regional air quality impacts remain significant and unavoidable. Table 5.3.5-7 provides a summary of the significance of the project's air quality impacts after mitigation at Phase 2 of project development.

11.3.5.4 Health Effects from Toxic Air Contaminants

A detailed analysis of the health effects from toxic air contaminants (TACs) that may result from the Proposed Project is provided in Chapter 2.0, Air Quality, of this Draft Supplemental Analysis. At Phase 2 of the Proposed Project, the TAC impacts will be of a lesser degree than those impacts projected to occur at Phase 4 build out. Nevertheless, the TAC impacts at Phase 2 are significant and unavoidable.

**Table 5.3.5-3
Regionwide Emissions Inventory Existing Conditions Plus Project (Pounds/Day Unless Noted) Phase 2**

Existing Conditions (1998)						Existing Conditions (1998) Plus Proposed Project (Phase 2)							
	CO	NO _x	ROC	SO _x	PM ₁₀		CO	NO _x	ROC	SO _x	PM ₁₀		
Aircraft	El Toro	1,451.49	365.51	536.16	21.47	163.45	Aircraft	El Toro	6,626.97	8,242.81	1,326.72	568.65	259.78
	JWA	7,190.15	2,579.29	515.49	199.72	39.83		JWA	12,939.34	3,846.77	795.30	307.05	62.36
	Other Airports	41,273.20	36,139.03	2,890.80	619.17	88.43		Other Airports	98,490.25	98,941.82	11,240.86	5,404.33	771.85
	Total Regional	49,914.84	39,083.83	3,942.45	840.36	291.71		Total Regional	118,056.56	111,031.40	13,362.88	6,280.03	1,093.74
GSE	El Toro	1,443.08	47.02	148.03	0.62	3.48	GSE	El Toro	14,041.42	1,163.01	514.64	55.95	47.52
	JWA	5,445.93	516.29	163.02	25.08	20.46		JWA	8,500.95	938.90	267.17	36.43	39.08
	Other Airports	57,782.48	4,631.09	819.72	67.48	38.21		Other Airports	138,040.73	12,690.39	3,194.40	589.50	333.73
	Total Regional	64,671.49	5,194.40	1,130.77	93.18	62.15		Total Regional	160,583.11	14,792.30	3,976.21	681.88	420.33
Energy	El Toro	29.00	166.80	1.60	17.10	5.70	Energy	El Toro	99.90	574.50	5.40	58.90	19.70
	JWA	13.20	76.10	0.80	7.40	2.50		JWA	27.90	160.70	1.60	16.10	5.40
	Others	157.00	904.00	10.00	89.70	30.00		Others	595.00	3,426.00	34.00	346.80	116.00
	Total Regional	199.20	1,146.90	12.40	114.20	38.20		Total Regional	722.80	4,161.20	41.00	421.80	141.10
Fuel	El Toro	--	--	1.30	--	--	Fuel	El Toro	--	--	50.24	--	--
	JWA	--	--	8.36	--	--		JWA	--	--	13.12	--	--
	Other Airports	--	--	146.52	--	--		Other Airports	--	--	567.09	--	--
	Total Regional	--	--	156.18	--	--		Total Regional	--	--	630.45	--	--
Airport Roadways	El Toro	--	--	--	--	--	Airport Roadways	El Toro	475.88	87.12	29.98	4.16	4.87
	JWA	341.23	43.24	37.50	5.81	1.13		JWA	411.45	52.20	41.54	6.11	1.69
	Other Airports	2,476.39	413.49	83.16	4.37	5.94		Other Airports	7,287.82	1,284.79	394.64	42.86	53.10
	Total Regional	2,817.62	456.73	120.66	10.18	7.07		Total Regional	8,175.15	1,424.11	466.16	53.13	59.66
Airport Parking	El Toro	--	--	--	--	--	Airport Parking	El Toro	335.87	30.36	9.89	2.98	2.77
	JWA	299.24	23.76	44.13	0.19	0.29		JWA	355.82	28.42	51.76	1.60	0.42
	Other Airports	1,547.75	124.05	11.88	5.83	2.30		Other Airports	3,765.39	326.03	50.51	51.78	20.44
	Total Regional	1,846.99	147.81	56.01	6.02	2.59		Total Regional	4,457.08	384.81	112.16	56.36	23.63
Roads	El Toro	2,929.00	594.00	176.00	51.00	11.00	Roads	El Toro ¹	18,279.00	5,196.00	1,597.00	347.00	1,941.00
	JWA	12,464.00	3,404.00	1,260.00	122.00	931.00		JWA ²	19,991.00	5,874.00	1,724.00	356.00	2,244.00
	Other Airports ²	4,386,436.00	438,423.00	93,401.00	42,830.00	7,519.00		Other Airports	15,708.00	4,451.00	1,540.00	175.00	1,376.00
	Total Regional²	3,295,718.00	745,988.00	228,623.00	42,657.00	13,478.00		Total Regional²	4,314,989.00	989,920.00	201,337.00	88,513.00	14,055.00
		1,401,829.00	442,421.00	94,837.00	43,003.00	8,461.00			6,243,266.00	1,300,898.00	338,823.00	87,985.00	19,965.00
		3,311,111.00	749,986.00	230,059.00	42,830.00	14,420.00			4,348,976.00	999,567.00	204,474.00	89,035.00	17,372.00
		1,521,279.14	488,450.67	100,255.47	44,066.94	8,862.72			6,278,965.00	1,311,233.00	342,087.00	88,512.00	23,585.00
TOTAL (pounds/day)		3,430,561.14	796,015.67	235,477.47	43,893.94	14,821.72		TOTAL (pounds/day)	4,640,970.70	1,131,360.82	223,062.86	96,528.20	19,110.46
									6,570,959.70	1,443,016.82	360,675.86	96,005.20	25,323.46
								Change from Existing Condition (pounds/day)	3,119,691.56	642,910.15	122,807.39	52,461.26	10,247.74
									3,140,398.56	647,001.15	125,198.39	52,111.26	10,501.74
								Change from Existing Condition (tons/year)	569,343.71	117,331.10	22,412.35	9,574.18	1,870.21
									573,122.74	118,077.71	22,848.71	9,510.30	1,916.57
								SCAQMD Threshold for Operation (pounds/day)	550	55	55	150	150

¹ Revised calculation of average trip length. This revision does not impact any of the significance determinations made in connection with the project.

² Typographical correction (year 2005 data was inadvertently used instead of 1998 data).

Source: CH2M HILL, P&D Consultants, and LSA Associates, Inc. 2001

Table 5.3.5-4

Regionwide Emissions Inventory Phase 2 Proposed Project/No Project (Pounds/Day Unless Noted)

No Project (Phase 2)						Proposed Project (Phase 2)							
	CO	NO _x	ROC	SO _x	PM ₁₀		CO	NO _x	ROC	SO _x	PM ₁₀		
Aircraft	El Toro	--	--	--	--	Aircraft	El Toro	5,175.48	7,877.30	790.56	548.57	96.08	
	JWA	7,237.35	3,117.14	415.07	246.83	45.72	JWA	5,749.19	1,267.48	279.81	107.33	22.53	
	Other Airports	64,338.22	70,647.13	9,401.21	5,385.93	768.34	Other Airports	57,217.05	62,802.79	8,350.06	4,785.16	683.42	
	Total Regional	71,575.57	73,764.27	9,816.28	5,632.76	814.06	Total Regional	68,141.72	71,947.57	9,420.43	5,439.67	802.03	
GSE	El Toro	--	--	--	--	GSE	El Toro	12,598.35	1,115.99	366.61	55.33	44.04	
	JWA	5,914.70	634.43	181.56	16.21	28.08	JWA	3,055.02	422.61	104.15	11.35	18.62	
	Other Airports	90,189.58	9,056.56	2,668.50	586.59	332.10	Other Airports	80,258.25	8,059.30	2,374.68	522.02	295.52	
	Total Regional	96,104.28	9,690.99	2,850.06	602.80	360.18	Total Regional	95,911.62	9,597.90	2,845.44	588.70	358.18	
Energy	El Toro	--	--	--	--	Energy	El Toro	70.90	407.70	3.80	41.80	14.00	
	JWA	20.30	117.10	1.10	12.00	4.00	JWA	14.70	84.60	0.80	8.70	2.90	
	Others	492.00	2,832.00	26.00	290.00	97.00	Others	438.00	2,522.00	24.00	257.10	86.00	
	Total Regional	512.30	2,949.10	27.10	302.00	101.00	Total Regional	523.60	3,014.30	28.60	307.60	102.90	
Fuel	El Toro	--	--	--	--	Fuel	El Toro	--	--	48.94	--	--	
	JWA	--	--	10.23	--	--	JWA	--	--	4.76	--	--	
	Other Airports	--	--	472.61	--	--	Other Airports	--	--	420.57	--	--	
	Total Regional	--	--	482.84	--	--	Total Regional	--	--	474.27	--	--	
Airport Roadways	El Toro	--	--	--	--	Airport Roadways	El Toro	475.88	87.12	29.98	4.16	4.87	
	JWA	147.64	18.07	8.41	0.55	1.15	JWA	70.22	8.96	4.04	0.30	0.56	
	Other Airports	3,864.54	803.26	271.90	37.98	51.60	Other Airports	4,811.43	871.30	311.48	38.49	47.16	
	Total Regional	4,012.18	821.33	280.31	38.53	52.75	Total Regional	5,357.53	967.38	345.50	42.95	52.59	
Airport Parking	El Toro	--	--	--	--	Airport Parking	El Toro	335.87	30.36	9.89	2.98	2.77	
	JWA	120.73	9.92	16.28	3.01	0.28	JWA	56.58	4.66	7.63	1.41	0.13	
	Other Airports	2,492.05	226.97	43.40	51.64	20.38	Other Airports	2,217.64	201.98	38.63	45.95	18.14	
	Total Regional	2,612.78	236.89	59.68	54.65	20.66	Total Regional	2,610.09	237.00	56.15	50.34	21.04	
Roads	El Toro	--	--	--	--	Roads	El Toro ¹	15,350.00	4,602.00	1,421.00	296.00	1,930.00	
	JWA	6,937.00	2,238.00	600.00	112.00	952.00	JWA	17,062.00	5,280.00	1,548.00	305.00	2,233.00	
	Other Airports ²	2,960,002.00	558,499.00	110,864.00	45,755.00	8,243.00	Other Airports ²	3,244.00	1,047.00	280.00	53.00	445.00	
	Total Regional²	2,965,980.00	559,703.00	111,572.00	45,643.00	8,228.00	Total Regional²	2,928,553.00	551,497.00	107,036.00	45,683.00	6,536.00	
	Total Regional²	2,966,939.00	560,737.00	111,464.00	45,867.00	9,195.00		Total Regional²	2,947,548.00	554,910.00	110,200.00	45,328.00	6,487.00
		2,972,917.00	561,941.00	112,172.00	45,755.00	9,180.00			2,947,147.00	557,146.00	109,637.00	46,032.00	8,911.00
		2,972,917.00	561,941.00	112,172.00	45,755.00	9,180.00			2,967,854.00	561,237.00	112,028.00	45,682.00	9,165.00
TOTAL (pounds/day)	3,141,756.11	648,199.58	124,980.27	52,407.74	10,543.65	TOTAL (pounds/day)	3,119,691.56	642,910.15	122,807.39	52,461.26	10,247.74		
	3,147,734.11	649,403.58	125,688.27	52,385.74	10,528.65		3,140,398.56	647,001.15	125,198.39	52,111.26	10,501.74		
Change from No Project (pounds/day)							(22,064.55)	(5,289.43)	(2,172.88)	(36.48)	(295.91)		
							(7,335.55)	(2,402.43)	(489.88)	(274.48)	(26.91)		
Change from No Project (tons/year)							(4,026.78)	(965.32)	(396.55)	(6.66)	(54.00)		
							(1,338.74)	(434.44)	(89.40)	(50.09)	(4.91)		
SCAQMD Threshold for Operation (pounds/day)							550	55	55	150	150		

¹ Revised calculation of average trip length. This revision does not impact any of the significance determinations made in connection with the project.

² Typographical correction.

Source: CH2M HILL, P&D Consultants, and LSA Associates, Inc. 2001

**Table 5.3.5-5
Mitigated Construction Traffic and Equipment Exhaust Emissions, Proposed Project**

Scenario	Estimated Emission Rate (lb/day)				
	CO	ROC	NO _x	SO _x	PM10
Phase 1 - Year 1	243.3	19.8	80.0	7.8	2.1
Phase 1 - Year 2	368.5	28.8	99.5	11.5	4.1
Phase 1 - Year 3	342.9	31.4	86.2	9.8	3.7
Phase 1 - Year 4	363.8	37.3	69.2	7.2	3.5
Phase 1 - Year 5*	63.6	41.1	12.5	1.3	0.6
Phase 2 - Year 1	151.5	10.2	45.1	5.0	1.5
Phase 2 - Year 2	515.9	36.6	146.0	17.3	5.9
Phase 2 - Year 3	477.4	39.1	124.7	14.6	5.2
Phase 2 - Year 4	351.9	34.6	56.4	5.7	3.0
Phase 2 - Year 5*	227.7	60.2	46.3	5.0	2.2
SCAQMD Construction Threshold	550	75	100	150	150

Source: P&D Consultants, LSA Associates, Inc. 2001.

NOTE: [1] Numbers in bold represent emissions that exceed the SCAQMD thresholds for construction.

* Half a year of construction activity.

**Table 5.3.5-6
Mitigated Fugitive Dust Emissions, Proposed Project**

Scenario	Fugitive Dust Emission (lb/day)
Phase 1 - Year 1	211.6
Phase 1 - Year 2	402.7
Phase 1 - Year 3	485.5
Phase 1 - Year 4	879.1
Phase 1 - Year 5*	179.7
Phase 2 - Year 1	95.3
Phase 2 - Year 2	355.8
Phase 2 - Year 3	572.9
Phase 2 - Year 4	1008.2
Phase 2 - Year 5*	409.3
SCAQMD Construction Threshold	150

Source: P&D Consultants, LSA Associates, Inc., 2001.

NOTE: [1] Numbers in bold represent emissions that exceed the SCAQMD thresholds for construction.

* Half a year of construction activity.

**Table 5.3.5-7
Significance of Air Quality Impacts After Mitigation – Phase 2**

Criteria Pollutant	Operations		
	On-Airport	Off-Airport	Construction ³
CO			
EMS ¹	S	S	LS
DISP ²	LS	LS	S
ROC			
EMS	S	S	LS
DISP	LS	LS	LS
NO _x or (NO ₂)			
EMS	S	S	S
DISP	S	LS	S
SO ₂			
EMS	S	S	LS
DISP	LS	LS	LS
PM ₁₀ or (fugitive dust)			
EMS	S	S	S
DISP	S	LS	S

LS = Less than Significant.

S = Significant

NA = Not applicable.

- 1 EMS = Emissions: significance determined by comparison of incremental emissions to the thresholds in Draft Supplemental Analysis, Chapter 2.0, Table 2-15.
- 2 DISP = Dispersion: significance determined by comparison of predicted ambient concentration to NAAQS and CAAQS in Draft Supplemental Analysis, Chapter 2.0, Table 2-13.
- 3 Construction impacts are based upon the peak emissions year, which are Phase 2, Year 3 for PM₁₀, and Phase 2, Year 2 of NO_x, and CO.
- 4 Significance based on NO₂ concentration predictions for unmitigated peak operations and estimated reductions from mitigation measures.

11.3.6 Landform and Topography

11.3.6.1 Construction Related Impacts of the Proposed Project Related to Landform and Topography

Grading operations having the most potential to impact topography are scheduled to take place during all four phases of the Proposed Project. The areas where major grading operations are planned, and the total amounts of soil to be cut or used as fill (rounded to the nearest 1,000 cubic yards), are as follows:

Phase 1 (2000-2005)

Cut: Terminal building, landside and airfield
Total Cut, all areas: 6,249,000 cubic yards
Fill: Airfield, apron
Total Fill, all areas: 4,574,000 cubic yards
Planning Areas: 1, 8

Phase 2 (2006-2010)

Cut: Airfield, terminal building, landside and cultural institutional area
Total Cut, all areas: 10,451,000 cubic yards
Fill: Airfield, apron
Total Fill, all areas: 10,125,000 cubic yards
Planning Areas: 1, 2, 8

Phase 3 (2011-2015)

Cut: Airport maintenance area
Total Cut, all areas: 3,578,000 cubic yards
Fill: Apron
Total Fill, all areas: 3,797,000 cubic yards
Planning Areas: 1, 2, 3

Phase 4 (2016-2020)

Cut: East cargo area
Total Cut, all areas: 2,581,000 cubic yards
Fill: Airfield, apron
Total Fill, all areas: 4,364,000 cubic yards
Planning Areas: 1, 3, 8¹

¹ In response to a comment submitted on Draft EIR No. 573, cubic yards shown are revised from those presented in Draft EIR No. 573 as the result of an adjustment unrelated to this supplemental phasing analysis. The revisions will be included as part of Final EIR No. 573 and do not constitute significant new information, nor do they result in significant impacts not previously identified.

With implementation of the Proposed Project limited through Phase 2, cut and fill operations at the end of Phase 2 will result in excess cut of approximately 2 million cubic yards. The best candidate areas to receive these fills are the areas planned for the terminal apron in Phases 3 and 4. Referring to Technical Report 19, Volume 2 of 2, Table B-4 and Figure 3 in Attachment N, the preliminary fill volumes required for Phase 3 terminal apron (Subarea 3-4 in Table B-4) and Phase 4 terminal apron (Subarea 4-5 in Table B-4) are 1.8 and 1.5 million cubic yards, respectively. This amounts to approximately 3.3 million cubic yards total volume of fill. Taking into account the 4:1 slopes from the finish grade elevations of Phases 3 and 4 apron needed to join the ground elevations constructed in Phases 1 and 2, these two areas should be sufficient to receive the 2 million cubic yards remaining after Phase 2 is completed. An alternative location to receive the excess fill is Subarea 4-2 in the airfield where Runway 7L is planned in Phase 4. This area can receive approximately 1.8 million cubic yards of fill and can be used as an alternative over the terminal apron areas. Whichever location is selected, the resulting fill will be compacted and stabilized, thus avoiding any stockpiling of fill material. The Proposed Project, therefore, will not result in significant impacts at the Phase 2 implementation level.

11.3.7 Soils, Geology and Seismicity

“Because the Proposed Project is a large-scale construction project, it has the potential to impact, or be impacted by, a variety of geological/geophysical factors. Impacts of the Proposed Project in relation to geology, soils, and seismicity are not anticipated to be phase-sensitive, except insofar as the timing of construction would result in the presence of buildings or other facilities that could be impacted.” (4.7-13.)

11.3.7.1 Mitigation Measures

Final EIR No. 563 Mitigation Measure G-4, as revised by EIR No. 573, provides, in part, that “prior to obtaining a grading permit for project construction, the County of Orange will require that detailed geotechnical and hydrological reports be prepared specifically addressing any needed modifications to the existing drainages on the MCAS El Toro Site.” (4.17-17). No additional mitigation measures beyond those set forth in Final EIR No 563, as revised for EIR No. 573, were identified.

11.3.7.2 Level of Significance After Mitigation

No significant impacts associated with issues related to soils, geology, or seismicity that cannot be mitigated to below a level of significance were identified at the Proposed Project’s Phase 2 level.

11.3.8 Hydrology and Water Quality

“The degree of hydrology and water quality impacts is most affected by the amount of impervious surfaces within a given area: the greater the impervious surface area, the greater the runoff and corresponding impacts. In 2020, impervious surface area under the Proposed Project will be maximized for the types of land use that are proposed. Because Pre-2005 interim land uses include less total area of impervious surface cover than under the Proposed Project at build out, hydrology and water quality impacts will be less under Pre-2005 conditions than under project build out conditions. [¶] Phased development of the Project in the year 2005 (opening day), 2010 and 2015 will also have a smaller impervious surface area than the 2020 build out conditions of the Proposed Project. Therefore, there will be no greater impacts on hydrology under any of the development phases than under the Proposed Project.” (4.8-17.) Because the Proposed Project at Phase 4 is not expected to result in significant hydrological impacts, impacts during the phasing years, including Phase 2, will be below the level of significant.

“[A]ny potential impacts to surface or groundwater quality that may result with implementation of the Proposed Project will be reduced to a level below significance based, in part, on improvements that will be made as part of the project and also, in part, on compliance with regulatory controls designed to maintain and improve the water quality of the MCAS El Toro receiving waters.” (4.8-26.) This is also the case with respect to the interim phasing years, including Phase 2 -- any potential impacts will be below the level of significant based on project improvements and compliance with applicable regulatory controls.

11.3.9 Biological Resources

“Virtually all of the direct impacts at the MCAS El Toro Site and the Adjacent Federal Habitat Reserve (e.g., loss of agricultural lands, demolition, etc.) will occur in Phase 1.” These impacts, however, are not significant (4.9-28-29.)

The Proposed ASMP Project will not result in significant adverse indirect impacts at the MCAS El Toro Site and the Adjacent Federal Habitat Reserve. Indirect impacts resulting from a change in the noise environment increase gradually over time with project phasing and an increase in aircraft operations. Accordingly such impacts are less during interim Phases 1 and 2 than at Phase 4 project build out. Potential short-term indirect impacts on wildlife are not considered significant and are not affected by project phasing. (See 4.9-29-30.)

The Proposed ASMP Project would not result in significant adverse impacts on native plant communities on the MCAS El Toro site or the adjacent federal Habitat Reserve. Any indirect impacts are not substantially influenced by project phasing. (See 4.9-39.)

“Biological resources associated with drainages or streambeds on the MCAS El Toro site and the adjacent federal Habitat Reserve are limited in their extent and are not well developed. A few soft bottom streambeds are subject to impacts under the Proposed Project. ... An estimated 0.64 acre of disturbed, soft bottom drainages are impacted at an insignificant level by drainage improvements

associated with the Proposed Project at Agua Chinon and at Borrego Wash. This estimated acreage includes a mulefat scrub component/open sandy wash. These washes are not locally or regionally significant, but do include limited riparian resources that do sustain riparian species. These drainages are isolated, fragmented, and do not support extensive riparian plant communities." (4.9-39-42.) The majority of these impacts occur during Phase 1, although some limited impacts occur in subsequent Phase 2.

"Due to the inclusion of the Wildlife Habitat Area, the Proposed Project is expected to result in significant, beneficial effects related to wildlife habitat on the MCAS El Toro site and not preclude opportunities for wildlife movement." (4.9-42-43.) The implementation of the Wildlife Habitat Area occurs during Phase 4. Since the Wildlife Habitat Area is not proposed as a mitigation measure for the project, its implementation during Phase 4 does not effect previous impact conclusions.

The Proposed ASMP Project will not result in significant adverse impacts on special interest species at the MCAS El Toro site or the adjacent federal Habitat Reserve. Any potential impacts that may occur are related to the loss of agricultural habitat, which occurs during the project's Phase 1. (See 4.9-43 - 45.)

11.3.10 Public Services and Utilities

"The Proposed Project at MCAS El Toro will involve development between the years 2000 and 2020 in five year phasing increments. Demand for public services and facilities will increase incrementally with each phase. No phase is anticipated to result in impacts greater than build out of the project." (4.10-48.)

11.3.10.1 Impacts Related to Solid Waste

"The Proposed Project solid waste generation is summarized, by phase, in Table 4.10-9. The amount of construction and demolition waste produced from the Proposed Project will create a significant impact." (4.10-25.)

As Table 4.10-9 indicates, during Phase 1, the proposed project will generate approximately 3,400 tons of solid waste per year. This amount increases to 5,400 tons per year in Phase 2. This is a significant adverse impact at the Phase 2 implementation level.

11.3.10.2 Mitigation Measures

PS-3 The County of Orange will develop a waste reduction plan for the waste generated from demolition and construction of new facilities and implementation of the Proposed Project in order to comply with State law ABA 939 prior to the commencement of construction for each phase.

**Table 4.10-9
Proposed Project Solid Waste Generation**

Land Use	Generation Factor ¹	Interim Use	Solid Waste Generated	Phase 1	Solid Waste Generated	Phase 2	Solid Waste Generated	Phase 3	Solid Waste Generated	Phase 4	Solid Waste Generated
Aviation Uses											
Agriculture	ND	-	-	138.9 acres	-	-	-	-	-	-	-
Regional Park	ND	-	-	-	-	-	-	-	-	265.13	-
North Golf Course (182 golfers/day) ^{a 3}	0.5lb golfer/day ²	80 acres	0.046 tons/day	186.51 acres	0.05 tons/day	-	-	-	-	-	-
South Golf Course (220 golfers/day) ^{a 3}	0.5lb golfer/day ²	80 acres	0.055 tons/day	97.66 acres	0.055 tons/day	-	-	-	-	-	-
Restricted Open Space	NA	-	-	193.8 acres	-	-	-	-	-	-	-
Habitat Reserve	NA	-	-	20.6 acres	-	-	-	-	-	-	-
Wildlife Habitat Area	NA	-	-	-	-	-	-	-	-	143.6	-
Marshburn Retarding Basin	NA	-	-	38.9 acres	-	-	-	-	-	-	-
Cultural/Institutional ^b	0.0013 tons/SF/year	-	-	-	-	545,000 SF	3.22 tons/day	-	-	-	-
Public Facilities											
Vehicle Maintenance Yard ^b	0.0108 tons/SF/year	-	-	51.1 acres	109.27 tons/day	-	-	-	-	-	-
Warehouse ^b	0.0108 tons/SF/year	670,000SF	32.89 tons/day	11.21 acres	23.96 tons/day	-	-	-	-	-	-
IRWD Reservoir & Pumping	NA	-	-	5.7 acres	-	-	-	-	-	-	-
Fire Station #1 ^d	ND ⁴	-	-	1.14 acres	.3 cu. ft/week	-	-	-	-	-	-
Cal Air National Guard ^a	6 lbs/1000SF/day	-	-	22.9 acres	3.0 tons/day	-	-	-	-	-	-
Homeless Service Providers ^b	0.0108 tons/SF/year	-	-	26.89 acres	57.5 tons/day	-	-	-	-	-	-
IRWD Facility	NA	-	-	9.0 acres	-	-	-	-	-	-	-
Fire Station #2 ^d	ND ⁴	-	-	0.95 acres	.3 cu. ft/week	-	-	-	-	-	-
Business Park ^a	6 lbs/1000SF/day	670,000SF	2.01 tons/day	82.46 acres	10.8 tons/day	-	-	-	-	-	-
Restaurant ^c	0.005 lbs/SF/day ²	30,000SF	0.075 tons/day	-	-	-	-	-	-	-	-
Child Care Center ^b	0.0013 tons/SF/year	20,000SF	0.11 tons/day	-	-	-	-	-	-	-	-
Subtotal Solid Waste Generated	-	-	35.186 tons/day	-	204.74 tons/day	-	3.22 tons/day	-	-	-	-
Aviation Uses											
Airport (OCX)	238.83 tons/MAP	-	-	8.8 MAP	2,101.7 tons/year	18.8 MAP	4,490 tons/year	23.4 MAP	5,588.6 tons/year	28.8 MAP	6,878.3 tons/year
Airport (JWA)	238.83 tons/MAP	-	-	5.5 MAP	1,313.5 tons/year	3.9 MAP	931.4 tons/year	4.6 MAP	1,098.6 tons/year	5.4 MAP	1,289.68 tons/year
Subtotal Solid Waste Generated	-	-	-	-	3,415.2 tons/year	-	5,421.4 tons/yr	-	6,687.2 tons/yr	-	8,167.98 tons/yr

Notes:
 ND – No Data
 NA – Not Applicable
 1 – Generation factors typically represent a 220 day work year.
 2 – Generation factors typically represent a 365 day work year.
 3 – Number of golfers were arrived at by dividing the average number of golfers anticipated at the golf courses over a three year period, by three.
 4 – Orange County Fire Authority.

Sources: Generation factors were extracted from various studies and EIRs in Los Angeles and Ventura Counties, and the City of Santa Clarita, and the California Integrated Waste Management Board.
 a – Stevenson Ranch DEIR (Phase IV), Los Angeles County.
 b – Guidelines for Preparation of Environmental Assessments for Solid Waste Impacts (Ventura County Solid Waste Management Department).
 c – DEIR for North Hills Development (Santa Clarita).
 d – Estimated Solid Waste Generation Rates for Institutions (California Integrated Waste Management Board)

11.3.10.3 Level Of Significance After Mitigation

“The potentially significant adverse impacts of the proposed project related to solid waste would be reduced to below a level of significance based on the implementation of Standard Condition of Approval SW1 (Solid Waste Collection Areas) and Mitigation Measure PS-3.” (4.10-53.) This conclusion is unchanged at the Phase 2 implementation level.

11.3.11 Natural Resources and Energy

11.3.11.1 Project Impacts On Natural Resources

Water Resources

“Project-related water demand during preliminary implementation phases would be less than at build out in 2020. Consequently, neither the phased implementation nor ultimate build out of the Proposed Project will require or result in the construction of new water treatment facilities or expansion of existing facilities, or place a demand on available water supplies in excess of that capable of being served by existing entitlements and resources.” (4.11-12.)

Agricultural Resources

“Under build-out of the Proposed Project, a substantial portion (approximately 902 acres or 87%) of the existing agricultural operations on the MCAS El Toro site would be terminated, and the majority of these areas would be developed with nonaviation uses including a business park, golf courses, public facilities, and the Marshburn Retarding Basin. ¶Most elements of the Proposed Project that will impact/eliminate existing agricultural resources will be implemented during Phase 1.” (4.11-12.) “Because this permanent loss of agricultural resource land usage on the MCAS El Toro site involves conversion of substantial acreage of farmlands, including those listed as “Prime” and/or of “Statewide Importance” to non-agricultural uses, it is considered to be a significant adverse impact of the Proposed Project.” (4.11-13.) This significant adverse impact would occur during Phase 1 of the Proposed Project.

Mineral Resources

“Because there is sufficient supply of these materials in the region and the construction of the Proposed Project would be phased over time, the use of these materials would not constitute a significant adverse impact.” (4.11-13.)

11.3.11.2 Project Impact on Energy Resources

Electricity

“Project-related electricity demand during preliminary implementation phases would be less than at build out in 2020. Therefore, neither the phased implementation nor ultimate build out of the Proposed Project would result in significant adverse impacts to electricity resources.” (4.11-15.) (Note: see Section 6.0, *infra*, for a discussion of the current State energy “crisis.”)

Natural Gas

“[T]he existing gas mains surrounding the MCAS EL Toro site have more than adequate capacity to service the needs of the Proposed Project. ... ¶ Natural gas consumption at MCAS El Toro represents substantially less than 1% of stateside and ASA regional natural gas consumption under both existing and forecasted conditions. Therefore, impacts on energy resources created by natural gas consumption under the Proposed Project are considered to be below a level of significance. Adequate supplies are available and no development is anticipated under the Proposed Project which would be in conflict with what SCG [Southern California Gas] indicates it can support.” (4.11-15 - 16.) This conclusion of significance applies to each of the phasing years as well.

Fossil Fuels

Motor Fuels - Operation

“At build-out, the Proposed Project would consume motor vehicle fossil fuels at volumes substantially below 1% of current (existing conditions) and forecasted conditions for the ASA region as a whole. Project-related motor vehicle fuel demand during preliminary implementation phases would be less than at build out in 2020. Consequently, neither the phased implementation nor ultimate build out of the Proposed Project will consume fossil fuel at a level that substantially exceeds existing supplies or otherwise causes regional supply and/or capacity constraints.” (4.11-18.)

Motor Fuels - Construction

Construction activities at the MCAS El Toro site under the Proposed Project will be conducted across four phases. Draft EIR No. 573 Table 4.11-7 depicts construction-related energy consumption for each Phase, as well as each year within each phase. (4.11-18.) As depicted by Table 4.11-7, “diesel fuel and gasoline consumption associated with construction of the Proposed Project is substantially less than 1% of the current (existing conditions) and forecasted regional demand for these fuels. Therefore, construction of the Proposed Project will not result in significant adverse impacts to fossil fuel resources.” (4.11-19.) This conclusion of significance applies during each of the phasing years as well.

Projected Jet Fuel Consumption at JWA and OCX

Draft EIR No. 573 Table 4.11-8 depicts the estimated jet fuel consumption for JWA and OCX under the proposed project for each of the four phases.

Projected Jet Fuel Consumption in the Region

“[B]ecause the amount of fuel used under the Proposed Project and each of its phases [including Phase 2] exceeds the one percent threshold of significance, when compared to existing conditions, the Proposed Project causes a significant, unavoidable impact by encouraging the use of large amounts of the total jet aircraft fuel consumed in the ASA region. With the present state of jet aircraft engine technology, there are no feasible mitigation measures to address this impact.” (4.11-21.)

Projected Aviation Gasoline Consumption at JWA and OCX

The projected level of fuel demand for the Proposed Project "is substantially less than 1% of the total current (existing conditions) and forecasted regional transportation demand for gasoline. In addition, the estimated Orange County aviation gasoline demand in 2020 under the Proposed Project represents less than a 1% increase over existing conditions from a Southern California regional aviation gasoline perspective. Therefore, the Proposed Project will not result in significant adverse impacts to this fossil fuel resource." (4.11-23.) This is also the case with respect to aviation gas consumption during the phasing years as there will be fewer aviation operations during this period than during final Phase 4.

11.3.11.3 Mitigation Measures

“The following mitigation measures were identified in Final EIR SA to provide partial reduction of the CRP impact to converting prime agricultural land to urban uses:

- NRE AG-1 The County, acting as the LRA for MCAS El Toro, shall use its best efforts to secure the conveyance of 40 acres of existing prime agricultural land on MCAS El Toro from the Department of Navy for the benefit of the Orange County Sheriff-Coroner. The 40-acre conveyance will be used by the Orange County Sheriff-Coroner for permanent agricultural use in conjunction with the County’s existing jail agricultural program at the James A. Musick Jail Facility. As a direct result of this mitigation, the conversion of prime agricultural land resulting from implementation of the Community Reuse Plan would be reduced from approximately 818 acres to 778 acres.
- NRE AG-2 As part of the interim reuse phasing strategy, the County, acting as the LRA for MCAS El Toro, will use its best efforts to continue to make available for lease the acreage currently in agricultural use on the MCAS El Toro site. This action will help compensate for the adverse economic impact resulting from base

closure, and provide a revenue stream to maintain the base property until project build out. The County will continue to make agricultural lands available for lease as long as the interim uses are consistent with the uses contemplated in the Community Reuse Plan, and as long as those uses do not compromise the County's ability to implement the Community Reuse Plan in a timely manner. However, interim agricultural use would not be allowed for a period longer than 10 years." (4.11-24.)

11.3.11.4 Level of Significance After Mitigation

"The impacts of the proposed project on natural resources, aggregate resources and energy resources will not be significant except as follows: the loss of agricultural land in the County of Orange, the City of Irvine and the City's sphere of influence is a significant adverse impact of the Proposed Project that cannot be mitigated to below a level of significance. The demand on jet fuel in the ASA is an impact that cannot be mitigated to below a level of significance when compared to existing conditions. The encouragement by the Proposed Project of the use of large amounts of the total jet aircraft fuel consumed in the ASA region, when compared to existing conditions, is an impact that cannot be mitigated to below a level of significance." (4.11-28.)

11.3.12 Aesthetics, Light and Glare

"The aesthetics, light and glare impacts analysis is provided based upon project build out in year 2020. Visual features of note constructed prior to 2020 are discussed [in Draft EIR No. 573] where applicable." (4.12-7.)

To the extent the Air Traffic Control Tower may be constructed prior to 2020 during Phase 1 of the Proposed ASMP Project, the on-site project improvements will not result in significant adverse impacts related to aesthetics during the phasing years. (See 4.12-12.)

11.3.12.1 Impacts Related to Off-Site Road Improvements

To the extent construction of the Eastern Transportation Corridor connector ramps will be a part of the incremental development of the Proposed ASMP Project, the project related off-site improvements will not result in significant adverse impacts to aesthetics during the phasing years. (See 4.12-12.)

11.3.13 Cultural Resources

11.3.13.1 Historical Resources

The proposed project will not result in significant adverse impacts to historical resources at build out, or during the interim phasing years. (See 4.13-5.)

11.3.13.2 Archaeological Resources

The Proposed Project will not result in significant adverse impacts to archaeological resources on site at MCAS El Toro. (See 4.13-6.) This is the case at project build out, as well as during the interim phasing years.

11.3.13.3 Paleontological Resources

“Although no specific sensitive paleontological resources are currently known to be exposed on MCAS El Toro, the geological units present on the project site have been rated as having a moderate paleontological sensitivity potential to be exposed during ground disturbance and earthmoving activities. Therefore, County Standard Condition of Approval No. A7 will be implemented during project earthmoving activities as precautionary mitigation [monitoring of project site grading and preparation work by a County certified paleontologist]. ... Therefore, no significant impacts to paleontological resources are expected to occur under the Proposed Project.” (4.13-7.) Because County Standard Condition of Approval No. A7 applies during all phases of construction, the proposed project will not result in significant adverse impacts to paleontological resources during the interim phasing years.

11.3.14 Recreation

The Proposed ASMP Project will not result in significant adverse impacts to on-site recreational facilities during the phasing years. (See 4.14-12.)

The Proposed ASMP Project will not result in significant adverse impacts to regional local parks during the phasing years. (See 4.14-13.)

The Proposed ASMP Project will not cause significant adverse impacts to local and/or regional riding and hiking trails or off-road bikeways during the phasing years. (See 4.14-13-14.)

11.3.14.1 Class II Bikeways

"In the MCAS El Toro area, the Proposed Project's trip generation will require widening of Irvine Boulevard to its ultimate six lane master planned width, between Jeffrey Road and approximately midway between Alton Parkway and Sand Canyon Avenue (refer to Draft EIR No. 573 Section 4.3, Table 4.3-20). Irvine Boulevard is primarily four lanes currently in this segment. The widening of the section of Irvine Boulevard adjacent to the MCAS El Toro property (ETC East Leg to West Access Road) is proposed in Phase 1 (by 2005), with the remaining off-site sections being widened by the end of Phase 4. The widening of this roadway will affect the existing on-street bicycle lanes by disrupting their use during the roadway construction period. This disruption may involve a temporary closure and/or rerouting of the bicycle lanes on the north and south sides of the road. Therefore, this would be a significant short-term impact, which will be reduced to below significance with implementation of

Mitigation Measure R-1 (refer to Section 4.14.8.4)." (4.14-14.) The Proposed Project would not result in significant adverse impacts to other Class II Bikeways during the phasing years.

11.3.14.2 Effects of Aircraft Noise on Use of Recreational Facilities

The Proposed Project would not cause a significant noise impact to parks and other recreational facilities that fall within the existing 1998 military 65 dB CNEL contour, including the Laguna Hills Golf Course, the Aliso Viejo Golf Course, and on-site recreational facilities. (See Draft EIR No. 573 Figure 4.14-1.) Similarly, because aircraft operations will be less during the interim phasing years than at project build out, there will be no additional noise impacts at the subject facilities during Phases 1 through 2. (See, 4.14-15.)

In the build out project condition, several existing and future planned off-site trails, Class II bikeways, parks and open space areas fall within the post-project 65dB CNEL contour. These noise impacts are considered significant. (See 4.14-15.) The 65 dB CNEL contour will be smaller proportionately during Phases 1 and 2 and, correspondingly, impacts will be less during these interim phases of the Proposed Project.

On-site recreational facilities will be affected by aircraft noise from the Proposed Project at build out. Facilities including the two proposed golf courses, the regional park, the Equestrian Center, and on-site trails will be within the project 65 dB CNEL contour. As to that portion of the 65 CNEL noise contour that covers the MCAS El Toro site, the contours for Phase 1 and Phase 2 are approximately the same as project build out. Accordingly, the potential impacts are approximately the same (no greater) for project Phases 1 and 2.

11.3.14.3 Consistency with Recreational Planning Policies

Project consistency with County and City General Plans is applicable to the project actions occurring prior to Phase 1. Therefore, the recreational planning policies consistency analysis is not subject to analysis by phase. (See 4.4-16-18.)

11.3.14.4 Mitigation Measures

Mitigation Measure R-1

"Prior to the approval of design plans, specifications, and estimates (PS&E) for off-site roadway improvements, the County shall prepare a Construction Action Plan. The Construction Action Plan shall set forth appropriate construction practices necessary to minimize the potential disruption to properties, pedestrians, bicyclists, and motorists. The following items shall be included in the Plan:

- **Public Notice:** Signs providing advance notice of work to be done on a particular segment shall be posted for a period of two weeks prior to construction. Notification in a local newspaper shall be published two weeks prior to construction. Adjacent property owners

and public service providers and utility companies shall also be notified two weeks prior to construction.

- **Traffic Routing:** Signs shall be provided to route vehicular and bicycle traffic through segments under construction. In addition, signs that suggest possible alternate routes shall be posted. Construction vehicle access to construction sites shall occur at off-peak traffic hours. Construction vehicle access routes shall be directed around residential areas. In addition, traffic control personnel shall be provided as necessary to mitigate traffic congestion and to mitigate the impact to arterial service levels during construction in accordance with local, State, and federal standards.
- **Construction Staging:** Storage of construction vehicles, equipment, and materials shall not occur in the immediate vicinity of residential areas and retail establishments.
- **Hours of Construction:** Hours of construction shall conform to established County policy unless otherwise approved by the County.
- **Access to properties:** Construction activities shall be arranged so that access to properties will be maintained.” (4.14-20-21.)

11.3.14.5 Level Of Significance After Mitigation

Implementation of Mitigation Measure R-1 will reduce Phase 2 short-term impacts to bikeways on off-site roadways under construction to a level below significant. (See 4.14-21.)

11.3.15 Public Safety

In all cases discussed below, the likelihood of impacts is lower in Phases 1 through 3 than at project build out due to the lower number of aircraft operations forecast in the interim phasing years.

11.3.15.1 Accident Likelihood

“The aircraft accident likelihood under the Proposed Project in 2020 for both JWA and OCX is shown on [Draft EIR No. 573] Table 4.15-5. This level of aircraft fatal accident risk is not extraordinary given the projected level of aircraft operations. Similar statistical risks would be expected if the operations were at another urban Southern California location. The fatal off-airport accident likelihood would be lower in the earlier years due to the lower number of aircraft operations forecast in the intermediate phasing years.” (4.15-16.)

11.3.15.2 Bird Strike Risk

"Although the departure corridor for Runway 34 does cross a bird movement flight pattern, the altitude separation between departing aircraft and gull flight at MCAS El Toro, coupled with the infrequent bird strikes reported at JWA, does not seem to indicate that a substantial bird strike hazard exists for the Proposed Project." (4.15-18 - 19.) To the extent Runway 34 is utilized during Phases 1 and 2, this conclusion applies equally during the phasing years.

11.3.15.3 Adequacy of Runway Lengths at JWA and OCX

"[T]he runway system proposed for OCX under the Proposed Project would be adequate to accommodate domestic and international flights to destinations that satisfy Orange County air travel demands under typical weather conditions existing at the site." (4.15-21.) In Phase 1, the existing 10,000-foot Runway 16R/34L will be reconstructed and readied for commercial use. (3-58.) Phase 2 airfield improvements involve construction of the parallel north-south runways to their ultimate configuration, and development of Runway 7R-25L. (3-63.)

11.3.15.4 Safety of Runway Configuration

"The proposed project will be in compliance with all FAA safety standards pertaining to transportation uses at the ends of runways, and therefore, the proposed uses [during all phases of the Proposed Project] will not result in a significant safety impact." (4.15-25.)

11.3.15.5 Proximity of JWA and OCX and Potential Airspace Conflicts

"Airspace studies [conducted in connection with the Proposed Project] demonstrate that the use of MCAS El Toro as a commercial airport and the continued commercial use of JWA can be safely and efficiently accommodated within the regional air traffic and airspace structure." (4.15-26.) This conclusion is independent of project phasing, although the relative risk increases in successive project phases as the number of aircraft operations increases.

11.3.15.6 Emergency Procedures for Aircraft Operations

"Although the possibility of a commercial airplane losing power in an engine during takeoff is remote, procedures are established at every airport to allow the aircraft to safely complete its takeoff and initial climb-out. At OCX these procedures would require that aircraft follow different departure paths than would be followed under normal conditions because an aircraft that lost power in one engine would have a reduced climb capability." (4.15-27.) This conclusion is independent of project phasing, although the relative risk increases in successive project phases as the number of aircraft operations increases.

11.3.16 Hazardous Wastes and Hazardous Materials Use

Draft EIR No. 573 Section 4.16.6 addresses the hazardous wastes and hazardous materials use impacts associated with the Proposed Project. The impacts analysis is presented by Planning Area, eight separate subsections, each addressing one of the eight MCAS El Toro geographic planning areas. Within each Planning Area discussion, the EIR addresses separately: (i) the impacts attributable to site location, and (ii) the impacts attributable to hazardous materials use.

A discussion of the impacts of the Proposed Project relative to the interim phasing years, including Phase 2, follows.

11.3.16.1 Impacts Attributable to Site Location

"Hazardous wastes issues currently being addressed by the DON at the MCAS El Toro site include in-service ASTs (aboveground storage tanks)/USTs (underground storage tanks), landfills, oil/water separators, active hazardous material storage areas and hazardous waste accumulation areas, PCB transformers and storage areas, burn pits, silver recovery units, potential presence of radioactive material, and pesticide storage areas... [These wastes] are found throughout the MCAS El Toro site [in locations designated "IRP" (installation restoration program) sites] and most generally tend to be concentrated in proximity to the existing airfield.

The location of IRP sites in relation to the Proposed Project is shown on DEIR No. 573 Figure 4.16-2. The DON is responsible for ensuring that these sites undergo remedial action that is appropriate for the intended reuse of the MCAS El Toro site. The DON will also implement institutional controls to ensure that selected remedial actions are not compromised by proposed uses. The remediation measures and institutional controls will allow the proposed uses at the site to occur without exposing the public to any hazardous materials exceeding any established or generally accepted level of risk or exposure." (4.16-24.)

Draft EIR No. 573 presents the impacts of the proposed project attributable to site location at pages 4.16-25 through 4.16-46. In assessing potential impacts on a planning area-by-planning area basis, the analysis necessarily considered these impacts during the phasing years. That is, in assessing impacts attributable to site location within Planning Area 1, the analysis considered that under the Proposed Project, the terminal complex and parking facilities would be located in Planning Area 1. (4.16-25.) Construction of the terminal building area and terminal vehicle parking is scheduled to begin in Phase 1. Therefore, the conclusion of significance with respect to Planning Area 1 factors into consideration the Phase 1 construction of the terminal complex. Similar conclusions may be drawn with respect to each of the Planning Areas.

11.3.16.2 Impacts Attributable to Hazardous Materials Use

"The storage, use and handling of hazardous materials, and generation and disposal of hazardous wastes, are regulated by applicable state and federal laws and regulations, and local ordinances. A list of these applicable laws and regulations is provided in Appendix I to Draft EIR No. 573. Compliance with these regulations and [the proposed mitigation measures] will reduce potential impacts related to hazardous materials use to below a level of significance." (4.16-27.) This

significance conclusion applies equally during each of the phasing years since the requirements associated with project compliance apply during the interim phasing years, including Phase 2, as well as at project build out.

11.3.16.3 Level of Significance After Mitigation

“As described earlier, if the proposed mitigation is implemented, the Proposed Project is not anticipated to result in significant adverse impacts related to hazardous materials and waste, based on the existing remediation programs underway at the MCAS El Toro site, the imposition of institutional control by DON, and the lack of significant hazardous waste issues at JWA. Future uses of hazardous materials and generation of hazardous wastes by the Proposed Project may have the potential to result in significant adverse impacts to human health and the environment. Compliance with applicable federal, state, and local regulations and requirements, and proposed mitigation measures pertaining to the use of these substances will reduce potential impacts to below a level of significance. Therefore, the Proposed Project will not result in significant adverse impacts related to existing hazardous waste contamination and proposed hazardous material use.” (4.16-56.)

11.3.17 Socioeconomics

“Economic activity to be generated by aviation and nonaviation activities at OCX and JWA, as well as by tourism related jobs generated by visitors to Orange County using OCX and JWA, is anticipated to support a total of 146,100 jobs countywide by 2020 (Technical Report No. 16, Economic Benefits Study, November, 1999). Proportionate economic activity would be generated under the 2005, 2010, and 2015 development scenarios.” (4.17-14.) See Draft EIR No. 573 Table 4.17-4, Projected On-Site Employment by phase.

11.3.17.1 Impacts Relating to Inducing Substantial Growth or Concentration of Employment

“The Proposed Project would result in a significant adverse impact related to inducing substantial growth or concentration of population (in this case nonresident employee population). The Proposed Project anticipates generating significant new employment opportunities in all phases, which is a significant adverse impact in all phases of the Proposed Project.” (4.17-14.)

11.3.17.2 Impacts Relating to Inducing Substantial Growth or Concentration of Resident Population and Housing

“Since no housing units will be retained or developed in any phase of the Proposed Project, and significant new employment opportunities will be generated in all phases, this is a significant adverse impact of the Proposed Project in all phases.” (4.17-15.)

11.3.17.3 Impacts Related to Displacement of a Large Number of People

The Proposed Project will not result in significant adverse impacts related to the displacement of a large number of people. This conclusion is unchanged during the interim phasing years. (See 4.17-17.)

11.3.17.4 Impacts Related to the Disruption or Division of the Physical Arrangement of an Established Community

"The Proposed Project would not result in a significant adverse impact related to the disruption or division of the physical arrangement of an established community." (4.17-17.) This conclusion is unchanged during the interim phasing years.

11.3.17.5 Impacts Related to Consistency with Adopted Regional Forecasts

"[Because] the projected employment and population is inconsistent with the level identified in the adopted regional growth forecasts in all phases of the Proposed Project, this is a significant adverse impact of the Proposed Project in all phases." (4.17-18.)

11.3.17.6 Impacts Related to the Jobs/Housing Ratio

"Because the direct impacts of the Proposed Project will slightly reduce the projected jobs/housing ratio in a jobs-rich area, the Proposed Project will not result in significant adverse impacts related to the projected jobs/housing ratio (see table 4.17-4 for project changes in ratios for 2005, 2010, and 2015)." (4.17-19.) To the extent the projected on site employment numbers are proportionately lower during the interim phasing years than at project build out, the jobs/housing ratio under the Proposed Project during the interim phasing years, including Phase 2, is proportionately lower than forecasted jobs/housing ratios. Accordingly, at Phase 2, the project will not result in significant adverse impacts related to the projected jobs/housing ratio.

11.3.17.7 Impacts Related to Low and Moderate Income Housing Needs

"The Proposed Project will generate significant new employment opportunities in all phases of the project without directly providing any new housing, which is a significant adverse impact of the Proposed Project in all phases." (4.17-20.)

11.3.17.8 Impacts Related to Housing Supply

“With respect to the removal of substantial numbers of existing housing, “in that these units will be removed in the first phase of the Proposed Project, this is a significant adverse impact in all phases of the Proposed Project.” (4.17-20.)

11.3.17.9 Mitigation Measures

“The level of employment and population generated on site under the Proposed Project would be inconsistent with the adopted regional growth forecasts. Under the SCAG threshold of significance related to consistency with adopted regional growth forecasts, this would be a significant adverse impact of the Proposed Project. As mitigation:

SE-1 If the Proposed Project is adopted, the County of Orange will submit updated employment, population, and housing growth forecasts for the project site to SCAG for their next scheduled update of regional growth forecasts that reflect the level of activity anticipated under the Proposed Project.” (4.17-21.)

11.3.18 Level of Significance After Mitigation

“Impacts of the Proposed Project regarding inconsistency with the adopted regional forecasts will be reduced to below a level of significance with implementation of Mitigation Measure SE-1.

Impacts of the Proposed Project related to inducing substantial growth or concentration of non-resident employee population cannot be mitigated below a level of significance.

Impacts of the Proposed Project related to increased resident population growth and the related demand for all types and prices of housing in the surrounding area, while not directly providing any new housing to meet this increased demand, cannot be mitigated below a level of significance.

Impacts of the Proposed Project related to reducing the supply of available housing in the County cannot be mitigated below a level of significance.” (4.17-21.)

11.3.19 Risk Of Upset

11.3.19.1 Accident Assessment - MCAS El Toro

Transport Accidents - Tank Trucks

Draft EIR No. 573 Table 4.18-7 provides a breakdown by project phase of the estimated daily probabilities of accidental releases associated with tank truck delivery of jet fuel to the MCAS El Toro site.

**Table 4.18-7
Proposed Project Jet Fuel Tank Truck Daily Accident
Probabilities – MCAS El Toro Site**

	2005	2010	2015	2020
Truck Trips/Day	40	133	178	244
10% Cargo Loss	4.5 x 10 ⁻⁴ (High/Likely)	1.5 x 10 ⁻³ (High/Likely)	2.0 x 10 ⁻³ (High/Likely)	2.8 x 10 ⁻³ (High/Common)
30% Cargo Loss	1.5 x 10 ⁻⁴ (Medium/Reasonably Likely)	5.0 x 10 ⁻⁴ (High/Likely)	6.7 x 10 ⁻⁴ (High/Likely)	9.2 x 10 ⁻⁴ (High/Likely)
100% Cargo Loss	1.5 x 10 ⁻⁴ (Medium/Reasonably Likely)	5.0 x 10 ⁻⁴ (High/Likely)	6.7 x 10 ⁻⁴ (High/Likely)	9.2 x 10 ⁻⁴ (High/Likely)

Source: ASMP; FEMA, 1990

"For perspective, these estimated probabilities indicate that, for the level of jet fuel tank truck deliveries to OCX occurring in 2020, approximately one accident per year, resulting in a 10 percent cargo loss, would be expected. Accidents resulting in 30 percent and 100 percent cargo losses would be expected to occur approximately once every three years.

"On this basis, the representative probability for project related tank truck transport accidents to result in a release of jet fuel while enroute to the MCAS El Toro site from a fuel supplier in El Segundo is deemed to range from High/Common accidents, for a ten percent cargo loss in 2020, to Medium/Reasonably Likely accidents, for 30 percent and 100 percent cargo releases during Phase 1 (2005) of the Proposed Project. As shown in the risk matrix (Figure 4.18-1), any accident with a probability of occurrence in the High/Common or High/Likely accident range would be considered to trigger a mandatory requirement for comprehensive planning and preparedness, regardless of the severity of the accident related consequences." (4.18-20.)

"Given the relatively high probability of occurrence estimated for tank truck accidents associated with jet fuel delivery to the MCAS El Toro site during all project phases, coupled with the size of potential hazard and vulnerable zones calculated by ARCHIE for these

hypothetical accidents, the Proposed Project could result in reasonably foreseeable upset and accident conditions, involving the release of jet fuel into the environment, thus creating a hazard to the public or the environment through the routine transport and use of this fuel. As a result, highway truck transport of jet fuel to the MCAS El Toro site under the Proposed Project is deemed to result in a significant adverse impact to public health and safety under risk of upset conditions. This conclusion is independent of project phasing, although the relative risk increases in successive project phases as the number of required tank truck trips concurrently increases." (4.18-21.)

Bulk Fuel Storage Facility Accidents

"Table 4.18-8 provides a breakdown by project phase of the total estimated daily probabilities of accidental releases associated with bulk jet fuel storage at the MCAS El Toro site." (4.18-22.) "[T]he Proposed Project would not result in reasonably foreseeable upset and accident conditions, involving the release of jet fuel into the environment, thus creating a potential hazard to the public or the environment through the routine use and storage of jet fuel. As a result, the use and storage of jet fuel at the MCAS El Toro site under the Proposed Project is deemed not to result in a significant adverse impact to public health and safety under risk of upset conditions. This conclusion is unaffected by project phasing." (4.18-23 - 24.)

Aircraft Related Bulk Fuel Storage Facility Accidents

"Table 4.18-9 provides a breakdown by type of operation of the total estimated daily probabilities of bulk fuel storage facility accidents involving aircraft arrivals on Runways 7R and 7L at the MCAS El Toro site under the Proposed Project." (4.18-25.) "[T]he Proposed Project would be unlikely to result in reasonably foreseeable upset and accident conditions, involving the release of jet fuel into the environment, thus creating a potential hazard to the public or the environment through the routine use and storage of jet fuel. As a result, the use and storage of jet fuel at the MCAS El Toro site under the Proposed Project is deemed not to result in a significant adverse impact to public health and safety under risk of upset conditions. This conclusion is unaffected by project phasing." (4.18-27.)

11.3.19.2 Mitigation Measures

"On the basis of the analysis provided, the only risk of upset significant adverse impact associated with the Proposed Project requiring mitigation is the highway transport of jet fuel to the MCAS El Toro site via tank truck. To mitigate this impact, the County proposes the following measure:

RU-1 Prior to commencement of aviation flight operations, the County shall make every reasonable effort to lease or otherwise obtain appropriate agreement and/or approval for the use of the Norwalk Pipeline and Santa Fe Pacific Pipeline Line Section 126 (LS-126) for the purpose of conveying all jet fuel to the MCAS El Toro site. The objective of this measure is to obviate the need for and eliminate the adverse impacts associated with highway truck transport of jet fuel.

RU-2 At any such time that the County becomes the owner of the Norwalk pipeline, the County or its agents will inspect the pipeline on a regular basis to conform to the standard practice in the industry, will take corrective action to remedy any leaks, ruptures, or other hazards caused by the pipeline, and will pay any damages as required by law that are deemed by the appropriate authority to be the liability of the County.

These pipelines are existing, in-place, underground fuel conveyance facilities. Operation of the existing Norwalk petroleum transport pipeline would be subject to all pertinent state and federal regulations, including Title 49, Part 195 of the Code of Federal Regulations (14 CFR 195), which specifies operational and maintenance requirements.

Utilizing the existing Norwalk pipeline would require construction of a new, approximately 2.7 mile long pipeline from the Norwalk Pipeline at Irvine Boulevard south to the bulk fuel storage area. Accessing the Santa Fe Pipeline would require construction of a new, approximately 250 foot long supply pipeline from LS-126 to the fuel storage facility. These new pipeline connections would be constructed and completed during Phase 1.” (4.18-32.)

“The potential for risk of upset conditions associated with underground petroleum fuel pipelines (i.e., fire, explosion, and airborne LOC exposures) is substantially less than for tank truck highway transport. According to the American Petroleum Institute (API), the most likely accident involving an underground pipeline would be a localized spill triggered by “outside force damage” (e.g., during construction related excavations). While such an accident could release jet fuel to the environment, the resultant spill generally would be a localized environmental contamination and cleanup issue, as opposed to a potential acute public health and safety hazard.

Implementation of the pipeline jet fuel supply option also would necessitate the construction of two (2) additional bulk fuel storage tanks at the MCAS El Toro site. Table 4.18-12 provides a breakdown by project phasing and total estimated daily probabilities of accidental releases associated with bulk jet fuel storage under the pipeline supply option.

**Table 4.18-12
Bulk Jet Fuel Storage Tank Daily Accident Probabilities – OCX
with Pipeline Fuel Supply Option**

	2005	2010	2015	2020
Total Tanks On-Site	2	5	6	8
10% Product Loss	5.0×10^{-7}	1.2×10^{-6}	1.0×1.0^{-6}	2.0×10^{-6}
100% Product Loss	5.5×10^{-8}	1.4×10^{-7}	1.6×10^{-7}	2.2×10^{-7}

Source: ASMP; FEMA, 1990

“As with the Proposed Project, the total probability for bulk jet fuel storage tank accidents to result in a release of jet fuel at the MCAS El Toro site under the pipeline option remains in the low/very unlikely range, regardless of project phase and independent of release size.” (4.18-33.)

11.3.19.3 Level Of Significance After Mitigation

"Given a Low to Medium likelihood of occurrence and lack of adverse public health and safety accident consequences under risk of upset conditions, utilizing existing and new underground jet fuel conveyance pipelines will effectively mitigate the potential adverse effects associated with highway truck transport of jet fuel, while resulting in no additional or residual impacts." (4.18-33.) The implementation of Mitigation Measure RU-1 is within the control of entities other than the County of Orange. If the County is unable to implement this mitigation measure to the extent necessary to reduce the potential risks of upset associated with the Proposed Project to below a level of significance, this impact will remain significant and unavoidable.

~~41.0~~ 12.0 PERSONS AND ORGANIZATIONS CONSULTED

In accordance with CEQA Guidelines Section 15129, the following information is provided on organizations and persons consulted in preparing the Draft EIR. Chapter ~~13~~ 12 contains a list of the persons, firms, and agencies contributing to the preparation of this EIR.

The list of persons and organizations provided below is in addition to the consultation that was accomplished through the Draft EIR Notice of Preparation (NOP) process discussed in Chapter 2 of this EIR. Appendix A to this document contains a copy of the NOP and a list of individuals, agencies, and organizations to whom the NOP was sent, and Appendix B contains the comments on the NOP.

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