COUNTY OF ORANGE

FINAL
ENVIRONMENTAL IMPACT REPORT 546

Amendments to the John Wayne Airport Phase 2 Access Plan
Increasing Certain Maximum Permitted Noise Levels
and the
Addition of Certain New Regulatory Noise Monitoring Stations

STATE CLEARINGHOUSE NO. 92111057

(June 9, 1993)

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STATE CLEARINGHOUSE NO. 92111057

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PREFACE TO THE FINAL EIR

This Final Environmental Impact Report incorporates all changes (deletions and additions) made since the Draft EIR was printed. For easy reference, all additions are shown in ***bold italics*** text and all deletions are shown in ~~strikeout~~ text.

This Final EIR also includes the following appendices which were not in the Draft EIR:

APPENDIX F	Comments Received on Draft EIR
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GLOSSARY

AC "Advisory Circular." Advisory Circulars are published by the Federal Aviation Administration regarding various matters within the jurisdiction and regulatory responsibility of the FAA.

ADD "Average Daily Departure." ADDs are regulated on an annual basis, and an allocation of appropriate ADDs is required to conduct regularly scheduled commercial service at JWA with either Class A or Class AA aircraft.

AELUP Airport Environs Land Use Plan

AIP Federal Airport Improvement Program

ALPA Air Line Pilots Association

ALUC Airport Land Use Commission

ANCA Airport Noise and Capacity Act of 1990

AWG Airport Working Group of Orange County, Inc.

A-WEIGHTED A-weighted sound level (dBA) is the sound pressure which has been filtered or weighted to quantitatively reduce the effect of low frequency noise. It provides a simple measure to approximate the human ear to sound. A-weighted sound level is used as a single number rating for community noise such as aircraft flyovers and roadway traffic. A-weighted sound level is measured in decibels with a standard sound level meter which contains the "A" weighting network.

CEQA California Environmental Quality Act

CNEL "Community Noise Equivalent Level" is a cumulative noise descriptor which is used at all California commercial air carrier airports to describe the aircraft related noise environment. It is a descriptor which is required by regulations of the California Department of Transportation, Division of Aeronautics. CNEL is similar (but not identical) to the cumulative descriptor used by the federal government to describe aircraft noise, "Day-Night Level," which is usually denoted by the acronyms "DNL" or "L_{dn}."

GLOSSARY

FAA "Federal Aviation Administration." The Federal Aviation Administration is an agency of the United States Department of Transportation and is the principal federal aviation agency responsible for implementing federal law regulating aviation activities in the United States.

FAR "Federal Aviation Regulation." The Federal Aviation Regulations appear in Title 14 of the Code of Federal Regulations.

JWA John Wayne Airport, Orange County (SNA).

LEQ(H) Leq (Equivalent Sound Level) is the energy average noise level, usually measured in A-weighted decibels (dBA), integrated over a specified amount of time. Leq(H) is the A-weighted equivalent sound level averaged over a period of "H" hours. It is the level of constant noise that would have the same total acoustical energy as the actual time varying noise level. An example is Leq(12), where the equivalent sound level is the average over a particular 12-hour time period, such as the period 8:00 a.m. to 5:00 p.m. The time period "H" is usually selected to match the hours of operation for a given type of non-residential use.

LUCP Airport Land Use Compatibility Program

MAP "Million Annual Passengers." This is the common measure for describing an airport's passenger service level.

NADP "Noise Abatement Departure Procedure." NADP is terminology used by the FAA to describe aircraft departure procedures performed for noise abatement purposes in proposed AC 91-53A.

NEPA National Environmental Policy Act

NOP Notice of Preparation

PASSUR Passive Surveillance Radar. PASSUR is a flight tracking system which allows passive radar tracking of aircraft departing JWA and facilitates correlation of noise level information with specific flights, specific aircraft types and specific noise abatement departure procedures.

GLOSSARY

RMS "Remote Monitoring Station." This is the designation used for the microphones and related equipment installed north and south of the airport as part of the airport's noise monitoring system.

SAHSP Santa Ana Heights Specific Plan

SENEL "Single Event Noise Exposure Level." SENEL is the single event aircraft noise descriptor commonly used in California as a result of regulatory requirements of regulations of the California Department of Transportation, Division of Aeronautics. It is essentially identical to the equivalent federal descriptor known as "SEL."

SPON Stop Polluting Our Newport

TMS "Temporary Monitoring Station." The TMS' are temporary monitoring stations numbered TMS 21 through 28 which were installed south of JWA as part of the noise level demonstration test.

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CHAPTER 1

Introduction and Executive Summary

This document is a Draft Environmental Impact Report ("EIR") prepared under the California Environmental Quality Act ("CEQA") and its implementing state regulations ("the CEQA Guidelines").[1] The proposed project is described below in the "Project Summary" and "Project Description" sections of this EIR.

1.1 PROJECT SUMMARY AND BACKGROUND

1.1.1 PROJECT SUMMARY

The proposed project includes the following discretionary actions:

(i) amendments to the "PHASE 2 COMMERCIAL AIRLINE ACCESS PLAN AND REGULATION" ("the PHASE 2 ACCESS PLAN") which would modify certain of the maximum permitted departure noise levels in areas south of John Wayne Airport, Orange County (SNA) ("JWA"); and

(ii) the addition of three new regulatory monitoring stations south of JWA and the eventual future elimination of two existing noise departure monitoring stations south of JWA (Remote Monitoring Stations ["RMS"] 4 and 5).

In addition, the proposed project includes certain recommended project mitigation measures, which are summarized in Section 2.3, and discussed in greater detail in Sections 3.1 (noise) and 3.2 (land use), of this EIR. These measures include both project mitigation and mitigating conditions intended to limit the extent of the necessary noise level increases under the proposed project. The recommended mitigation measures also include land use actions proposed by the County of Orange ("the County"), including continuation of the acoustical insulation program and a reinitiation of a "purchase assurance" program for certain residential areas directly south of JWA. These land use programs were originally implemented by the County in connection with its adoption in 1985 of a master plan for the development and operation of JWA through the year 2005, and related actions of the Board of Supervisors approving program specific elements for the Land Use Compatibility Program

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[1] CEQA appears at California Public Resources Code, Sections 21000, and following. The CEQA Guidelines appear at Title 14 of the California Code of Regulations, Sections 15000 and following.

for Areas South of JWA ("LUCP").[2] In addition, the proposed project contains mitigating conditions and limitations intended to ensure realization of the principal objectives of the proposed project. Since the analysis of this EIR finds that there will be no project impacts on biological resources *(see,* Section 3.3), no mitigation is necessary or proposed.

1.1.2 BACKGROUND

The proposed project arises as a result of certain actions taken, and anticipated to be taken, by the Federal Aviation Administration ("FAA") which would prohibit the use of certain noise abatement departure procedures which have been used by certain aircraft types operating at JWA for a number of years, with prior FAA review and approval. The County is the proprietor of JWA and operates the airport under appropriate permits and certificates from the California Department of Transportation, Division of Aeronautics, and the FAA. Since at least 1969, the County has operated JWA under a series of restrictions implemented by lease agreements, regulations and ordinances which have the primary purpose of controlling and minimizing any adverse noise or other environmental effects resulting from aircraft operations at the airport.

In 1985, the Orange County Board of Supervisors ("the Board") adopted a master plan for the development and operation of JWA through the year 2005, and other related projects, including a land use compatibility plan ("LUCP") for a residential area immediately south of the airport, which is commonly known as "Santa Ana Heights" (collectively, "the 1985 Master Plan"). An EIR prepared under CEQA, and an Environmental Impact Statement ("EIS") prepared under the National Environmental Policy Act ("NEPA"), were reviewed and considered by the Board and by the FAA prior to their respective approvals of the 1985 Master Plan projects ("EIR 508/EIS").

A major mitigation measure of EIR 508/EIS was the continued enforcement of pre-existing airport use regulations and limitations, and the adoption of additional project mitigation, implemented through an airport "access plan." This mitigation included:

> (i) the simultaneous adoption by the Board of a "Commercial Airline Access Plan and Regulation" ("the Phase 1 Access Plan"), intended to be in effect through the period characterized in the 1985 Master Plan as "Phase I" (1985-1990); and

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[2] The LUCP was originally approved by the Orange County Board of Supervisors as project mitigation for the 1985 Master Plan. In addition, it should be noted that the element of the project which proposes to add new monitoring stations is mitigating in its purpose and effect.

(ii) a commitment to continue to implement similar regulations and restrictions for "Phase II" of the 1985 Master Plan (1990-2005).[3]

On August 29, 1990, the Board adopted the PHASE 2 ACCESS PLAN, consistent with the project mitigation commitments made in connection with the County's approval of the 1985 Master Plan. The PHASE 2 ACCESS PLAN was expressly made effective immediately upon its adoption by the Board. Both the PHASE 1 ACCESS PLAN and the PHASE 2 ACCESS PLAN were, in turn, successor regulations to earlier "access plans" and other similar agreements, rules and restrictions previously implemented and enforced by the County.

The FAA is currently considering new noise abatement departure procedure policies. Specifically, the FAA has published for comment a proposed advisory circular ("AC"), AC 91-53A (57 Federal Register 34990 [August 7, 1992]) which would: (i) establish minimum operational standards and parameters for noise abatement departure procedures by large (over 75,000 pounds upon take-off weight) air carrier aircraft; and (ii) limit each aircraft operator (*i.e.,* air carrier) to no more than two (2) noise abatement departure procedures ("NADP") per aircraft type used by that operator. These new FAA policies would invalidate certain departure procedures previously approved by FAA for use at JWA.

One principal objective of this FAA initiative is to achieve "standardization" of noise abatement departure procedures at domestic commercial airports. It appears to be the concern of FAA that a "proliferation" of airport specific noise abatement departure procedures, like those previously approved for use at JWA, could create significant safety concerns because of the extra "workload" imposed on flight deck crew members (*i.e.,* the pilot and co-pilot) by requiring them to be familiar with, and to execute properly, a wide range of departure procedures with the same aircraft depending upon which airport the aircraft was departing. The FAA also believes that the new minimum altitude standards for initiating thrust reduction, and limitations on the amount of thrust reduction permitted under proposed AC 91-53A, will provide enhanced margins of safety for air carrier operations. However, these changes will cause increased noise levels in some areas south of JWA, principally Santa Ana Heights (*See,* Sections 3.1 and 3.2 of this EIR).

The PHASE 2 ACCESS PLAN maximum permitted noise levels were established, in part, based upon the demonstrated capability of the scheduled airlines to use the noise abatement departure procedures previously approved by the FAA for use at JWA.

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[3] Beginning in 1980, the County adopted a series of "Commercial Airline Access Plans." The primary function of these "plans" (which were adopted in regulatory form, and which, beginning with the Phase 1 Access Plan, were expressly incorporated into the lease and operating agreements of the scheduled commercial users of JWA), was to establish maximum permitted single event departure noise levels south of the airport; to limit by regulation the maximum permitted number of scheduled commercial flights in various noise and user classes; and to regulate and allocate operating privileges among scheduled air carriers and commuter airlines regularly serving JWA.

Therefore, unless certain amendments are made to the PHASE 2 ACCESS PLAN to accommodate noise abatement departure procedures which are consistent with the new FAA initiative, FAA's anticipated actions may result in a reduction in commercial airline capacity and operations at JWA significantly below the levels contemplated by the 1985 Master Plan, and a related settlement agreement entered into in 1985 by the County, the City of Newport Beach, and two citizens groups, "Stop Polluting Our Newport" ("SPON") and the Airport Working Group of Orange County, Inc. ("AWG") (the "1985 Settlement" or the "1985 Settlement Agreement").

With the cooperation of the City of Newport Beach, AWG, SPON, FAA and the air carriers operating at JWA, the County offered to conduct a noise level demonstration at JWA using a variety of departure procedures with each large jet aircraft type using the airport beginning on April 1, 1992 ("the noise level demonstration"). A more complete discussion of the noise level demonstration is contained in Section 3.1 and in Appendix D to this EIR.[4]

1.2 PURPOSE AND SCOPE OF EIR

The purpose of this EIR is to present information to the public and governmental agencies regarding the environmental impacts of the proposed project. The "decision makers" (in this case the Orange County Board of Supervisors) are required to take this information into account when deciding whether or not to approve the proposed PHASE 2 ACCESS PLAN amendments and related project components. For this project, the County is the Lead Agency under CEQA.

This EIR will be used for the following purposes:

(i) Consideration of the proposed project, its alternatives, and proposed mitigation measures by the County Board of Supervisors.

(ii) Consideration of the proposed project, its alternatives, and proposed mitigation measures by the County's Airport Commission and Planning Commission.

(iii) Execution of a supplemental stipulation by the County, the City of Newport Beach, and two citizen groups, SPON and AWG, permitting amendments to the 1985 Settlement Agreement and Stipulation, and the confirming order of the United States District Court.

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[4] Appendix D is the written report of the consultant retained by the County to manage and interpret the noise level demonstration data.

(iv) Execution of a written agreement between the County and FAA confirming that the proposed amendments to the PHASE 2 ACCESS PLAN will not alter or jeopardize in any manner the "grandfathered" status of the PHASE 2 ACCESS PLAN under the Airport Noise and Capacity Act of 1990 (49 USC §2153, *et seq.*), or be inconsistent in any manner with the County's legal obligations to the United States under the terms of grant agreements executed by the County under the federal Airport Improvement Program ("AIP").[5]

This EIR may also be used in connection with other discretionary approvals or implementing actions which may be necessary or desirable to proceed with the proposed project.

1.3 THE SCOPING PROCESS

On November 11, 1992, the County Environmental Management Agency, Environmental Planning Division, circulated a Notice of Preparation ("NOP") to various Federal, State, regional and local governmental agencies as required by CEQA. Attached to the NOP was an environmental analysis checklist, a description of the proposed project and an initial study. These materials are reproduced in Appendix A.

During the circulation of the NOP, a number of comments were received. All written comments received have been reproduced in Appendix B. The primary issues raised in the comments have been summarized in Appendix C, including how and where the issues are responded to in this EIR.

1.4 SUMMARY OF ENVIRONMENTAL IMPACTS

Neither the proposed project nor any of its alternatives would result in significant environmental impacts that cannot be mitigated to nonsignificant levels, assuming both that: (i) the recommended mitigation measures are found to be feasible and reasonable and are adopted by the Board of Supervisors as part of the project; and (ii) adequate federal funding is available to support and implement certain of the proposed land use mitigation measures

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[5] The "Airport Improvement Program" (or "AIP") has been implemented by the United States through a series of statutory provisions. The most recent statute is the Airport and Airway Improvement Act of 1982, as amended, which is found in Title 49 of the United States Code at Section 2201 and following.

under the federal AIP program (or other equivalent federal funding sources).[6] If, and only to the extent that the *outdoor* noise level increases which would result from implementation of the proposed project are, in certain specific instances, "significant" for purposes of this environmental analysis, those noise impacts are unavoidable and cannot be mitigated to a level of insignificance.[7]

The potential cumulative impacts of the proposed project are discussed at length in Section 7 of this EIR. Based upon the analyses contained in this EIR, there are no significant cumulative impacts associated with the proposed project or its alternatives.

The initial study identified three potentially significant impacts arising from the proposed project - noise impacts, land use impacts and impacts to biological resources. Based upon the analysis performed and summarized in this EIR, these impacts are either not significant when fully analyzed, or they will be avoided or mitigated through the implementation of mitigation measures which will be adopted as part of the proposed project.[8] Table 1-1 provides a summary of the anticipated impacts of the proposed project, the proposed mitigation measures, and the level of significance of the impacts after mitigation. A more detailed summary of the environmental impacts of the proposed project is provided below. In addition, Section 1.5 provides a summary of the impacts of the alternatives that have been analyzed in the EIR, and provides a comparison of the alternatives in relation to the proposed project. Sections 3.1 and 3.2, as well as Section 4 of this EIR, analyze and discuss the project alternatives in greater detail. In addition to the three identified potentially significant impacts arising from the proposed project, the initial study identified numerous effects required to be analyzed in the initial study that were found not to be significant. Section 6 discusses those project impacts found not to be significant.

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[6] If federal funding cannot be obtained to implement specified land use mitigation measures, the proposed project may result in significant noise and related land use impacts that cannot be mitigated to nonsignificant levels. This issue is addressed at length in Sections 3.1 and 3.2 of this EIR.

[7] For reasons discussed in Section 3.2 (land use), and specifically Section 3.2.7 (land use - analysis of significance), it is the conclusion of this EIR that those impacts are not unmitigated significant impacts to residential land uses south of JWA. However, the final decision of significance is a decision for the Board of Supervisors, and the County recognizes that there are individuals who may consider the outdoor impacts of the proposed noise level increases "significant" based upon their individual experience and perceptions. If the Board of Supervisors agrees with the view of those individuals that that specific impact is "significant" within the meaning of CEQA, then the outdoor noise impacts of the proposed project, in certain residential areas of Santa Ana Heights, would be found to be significant impacts which cannot be mitigated to a level of insignificance and for which no additional reasonable and feasible mitigation measures have been identified.

[8] Except, possibly, as described in footnote 7, above.

TABLE 1-1

SUMMARY MATRIX OF ANTICIPATED ENVIRONMENTAL IMPACTS OF THE PROPOSED PROJECT

	Potentially Significant Impacts	Mitigation Measures	Level Of Significance After Mitigation
Noise	Increases in single event and cumulative noise levels in certain areas south of JWA from current conditions, particularly the Santa Ana Heights area.	Land use mitigation measures (see below)* "Mitigating conditions" incorporated into the proposed project	Below the level of significance unless federal funding cannot be obtained for land use mitigation measures*
Biological Resources	None	No mitigation measures required	Below the level of significance
Land Use	Increases in single event and cumulative noise levels in certain areas south of JWA from current conditions, particularly the Santa Ana Heights area.	Continuation of the acoustical insulation program for Santa Ana Heights Reinitiation and acceleration of the purchase assurance program*	Below the level of significance unless federal funding cannot be obtained*

* If full implementation of the proposed land use mitigation measures is not feasible because of lack of federal funding, the proposed project will result in significant unavoidable adverse noise and land use impacts. *See* Section 3.2.7.

In addition, if, and only to the extent that, the proposed increase in maximum permitted noise levels at RMS 1, 2 and 3 create "significant" interference with exterior living areas in areas of Santa Ana Heights, those impacts cannot be mitigated below the level of "significance," and all reasonable and feasible mitigation measures which might lessen those impacts have been incorporated into the proposed project. *See* the discussion in Sections 1.4, 3.1, 3.2 and 3.2.7.

1.4.1 NOISE

The proposed project will result in increases in single event and cumulative noise levels in certain areas south of JWA,[9] particularly the Santa Ana Heights area, including an area commonly known as the Anniversary Tract, which is currently within the boundaries of the City of Newport Beach. The rest of the areas which are affected by potentially greater aircraft noise levels are located within the unincorporated areas of Santa Ana Heights. The proposed project will not alter aircraft landing patterns or noise levels, and thus will have no effect in communities north of the airport.[10]

Single event noise levels will increase for certain "classes" of commercial aircraft at Remote Monitoring Stations ("RMS")[11] 1, 2 and 3.[12] In some cases, the increases are as low as .1 dB SENEL,[13] which is imperceptible to the human ear. As discussed in Section 3.1, a normal person would require a difference of at least 3 dB SENEL between two successive aircraft events to reliably describe which of the events was louder. At noise level differences below 3 dB SENEL, the selection of most people of which aircraft event was noisier would be random.

As discussed in more detail in Section 3.1, the PHASE 2 ACCESS PLAN distinguishes between various classes of aircraft based upon their noise characteristics. From the noisiest to the quietest class of aircraft, these three regulatory classes are "Class A", "Class AA" and "Class E" aircraft. All of the proposed increases in the maximum permitted noise levels for Class A Aircraft are well below 3 dB SENEL, and for that class of aircraft,

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[9] "Single event" and "cumulative" noise descriptors are discussed in detail in Section 3.1.

[10] In commenting on the Notice of Preparation for this EIR, the City of Santa Ana requested a discussion of potential project impacts on arrival patterns over, or in the vicinity of, the City. This project would not alter in any manner approach paths or procedures now in effect, nor would it alter approach related noise levels in any respect.

[11] The "Remote Monitoring Stations" are part of the JWA noise monitoring system, and are microphones and related electronics which are located north and south of JWA to detect and report aircraft noise events to a central computer at the airport offices.

[12] A discussion of the different "classes" of commercial aircraft defined in the PHASE 2 ACCESS PLAN is contained in Section 3.1. Some aircraft types can operate across two, or even all three, classes, depending upon factors principally related to the gross takeoff weight of the aircraft.

[13] "SENEL" is an acronym for "Single Event Noise Exposure Level." SENEL is the single event noise descriptor defined in the California Noise Standards (regulations of the California Department of Transportation, Division of Aeronautics) in Title 21 of the California Code of Regulations, Sections 5000, and following. Essentially, SENEL is based upon "A-weighted" decibels ("dBA"), but includes a correction for the *duration* of the event, as well as measuring the maximum noise levels generated during the noise event.

the single event noise level increases of the proposed project are not considered significant.

However, some of the proposed changes to the maximum permitted noise levels for Class AA and Class E aircraft exceed 3 dB SENEL, and may result in significant single event increases in aircraft noise levels in some areas of Santa Ana Heights. Increases of this amount are significant noise impacts of the proposed project although, in absolute terms, these are the quietest available commercial aircraft; and they are perceptibly quieter than Class A Aircraft, both as measured by the noise monitoring system and as generally perceived in the communities south of JWA. However, one of the benefits of the proposed project is that, in many cases, and certainly on average, the single event noise levels of commercial aircraft are expected to actually *decrease* from existing conditions (other factors remaining equal) south of Santa Ana Heights, primarily in areas of Newport Beach. Nevertheless, the single event increases proposed by this project for Class AA and Class E aircraft are considered significant for purposes of this EIR and, therefore, appropriate mitigation measures have been proposed for inclusion in the proposed project.[14]

Cumulative noise levels (*i.e.,* CNEL) will increase in Santa Ana Heights, but will remain essentially the same or decrease in residential areas south of Santa Ana Heights. As discussed in greater detail in Section 3.1, the FAA has adopted various orders addressing the preparation of environmental documents for airport projects which establishes project increases of 1.5 dB L_{dn} as the threshold of significance for properties within the 65 dB L_{dn} contour for purposes of impact analysis.[15] Using this threshold criteria, the CNEL impacts of the proposed project in the Santa Ana Heights area are described and analyzed in this EIR as follows:

> The project CNEL impacts, even when analyzed on an artificial "worst case" basis,[16] are essentially identical to, or, in some areas, smaller

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[14] The proposed noise and land use mitigation measures, discussed in Section 3.1 and 3.2, respectively, are proposed for adoption by the County if the Board of Supervisors selects for implementation either the proposed project described in this EIR (which is also referred to in various sections of this EIR as "Alternative 1") or the project alternative identified in this EIR as "Alternative 2." Neither the "no-project" alternative nor the project alternative identified in this EIR as "Alternative 3" would require implementation of the recommended mitigation measures.

[15] As discussed in Section 3.1 and Appendix D, the federal "L_{dn}" descriptor is substantially the same as California's CNEL descriptor. Because CEQA was modeled on NEPA, the California courts have generally looked to federal cases interpreting NEPA as "strongly persuasive" authority as to the meaning of CEQA. *See, Friends of Mammoth v. Board of Supervisors* (1972) 8 Cal.3d 247, 261. Thus, because CEQA does not provide a noise "threshold of significance" standard, the FAA standards have been looked to for purposes of the noise analysis.

[16] CEQA does not require a "worst case" analysis. However, in order to test the level of significance of noise impacts for purposes of this EIR, an artificial "worst case" noise analysis has been performed and is (continued...)

than, the "project case contours" developed as part of EIR 508/EIS.[17] When analyzed on a "most likely" basis, the contours are significantly smaller than the "project case" contours of EIR 508/EIS, but somewhat larger than the actual CNEL contours for the year ending March 31, 1992.[18]

The proposed project would *not* result in significant *(i.e.,* 1.5 dB) CNEL increases when measured against the "project case" contours and mitigation programs of EIR 508/EIS.

In some areas of Santa Ana Heights, the CNEL increases resulting from this project will increase by as much as 3.5 dB CNEL, compared to the March 31, 1992, annual CNEL contours. A 3.5 dB increase at the CNEL levels experienced in much of Santa Ana Heights (*i.e.,* those areas presently exposed to noise levels of 60 dB CNEL or greater) is a significant project impact.

As a result of this analysis, the County has treated the CNEL increases as "significant" to ensure a full analysis and discussion in this EIR of the project related noise issues. The County has also proposed and incorporated into the project land use mitigation measures based upon this analysis of significance, although in some respects the proposed mitigation might be considered a continuation or extension of mitigation programs adopted and implemented as a result of the 1985 Master Plan. In other words, the County's Master Plan mitigation program included land use mitigation for all residential areas within the 65 dB CNEL contour south of JWA, and that "mitigation area" included all land south of the airport which will be within the 65 dB CNEL contour if this project is approved and implemented.

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[16](...continued)
presented in Section 3.1 and is identified as "*Scenario B.*" The County has elected to perform this analysis to ensure that as much information as possible is made available to the public and to the decision makers in this EIR without excessive attention to trivia or the irrelevant. However, for reasons discussed in Section 3.1, this decision does not indicate that the County believes that the "worst case" CNEL analysis is ever likely to occur as a result of the proposed project.

[17] The EIR 508/EIS "project case contours" appear in Exhibit 4.15-17 in Volume 1 of EIR 508/EIS. These contours were in turn used to define eligible areas in Santa Ana Heights for land use mitigation programs adopted in connection with the 1985 Master Plan project.

[18] The annual CNEL contours through March 31, 1992, were used for the analysis provided in this EIR because it is the most recent available information which pre-dates the noise demonstration period initiated on April 1, 1992.

In addition to the proposed land use mitigation measures, which are discussed in Section 3.2, the County has also proposed incorporating other mitigation measures and "mitigating conditions" into the project, which are discussed in Section 3.1.5. These "project conditions" are intended to serve a number of different purposes; but a principal purpose is to ensure that the proposed amendments to the PHASE 2 ACCESS PLAN do not result in any unanticipated noise impacts south of JWA. Implementation of these mitigation measures, together with the mitigation measures proposed under the land use analysis (Section 3.2), would reduce the noise impacts of the proposed project to a level below the level of significance.[19]

1.4.2 LAND USE

The proposed project will result in significant noise level increases, both as measured by single event and cumulative noise descriptors, in certain areas of Santa Ana Heights and the Anniversary Tract, which is within the boundaries of the City of Newport Beach. There will not be any significant increases in noise levels south of Santa Ana Heights and, in fact, in many areas of Newport Beach, the proposed project is expected to actually reduce single event and cumulative noise levels.

Mitigation measures have been proposed, including continuation of the acoustical insulation program for Santa Ana Heights and re-initiation and acceleration of the purchase assurance program, for properties which will be located within the 65 dB CNEL contour projected to result from the proposed project.[20] Implementation of these mitigation measures depends, to some extent, on the availability of federal grant funding. Except as qualified by the discussion in Section 3.2.7, if implemented, these mitigation measures, together with the mitigation measures proposed under the noise section of this EIR (Section 3.1), will reduce the land use impacts of the proposed project below the level of significance. If full implementation of the proposed land use mitigation measures is not feasible because of a lack of federal funding, the proposed project will result in significant unavoidable adverse noise impacts (*see* Section 3.2).

1.4.3 BIOLOGICAL RESOURCES

The study area includes the Upper Newport Bay Ecological Reserve and Regional Park ("the Back Bay"). Section 3.3 of this EIR contains an extensive analysis of the various sensitive species occupying the Back Bay. Based upon this analysis, it has been concluded that neither the proposed project, nor any of the proposed alternatives, would

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[19] Again, subject to the caveat described in footnote 7, above.

[20] See Section 3.2.6 for a detailed discussion of these programs.

result in significant impacts on biological resources. Because the proposed project would not result in any significant impacts on biological resources, no biological resource mitigation measures are proposed for implementation as part of the project.

1.5 SUMMARY OF PROJECT ALTERNATIVES

Table 1-2 provides a summary of the project alternatives that have been analyzed in the EIR and provides a comparison of the alternatives in relation to the proposed project.

In addition to the proposed project, three alternative projects are evaluated and discussed in Section 4 of this EIR. The first alternative is the statutorily required "no project" alternative. Under this alternative, no amendments would be made to the PHASE 2 ACCESS PLAN. When the anticipated adoption of AC 91-53A occurs, and when FAA makes those limitations and standards regulatory by amending the operating certificates of the air carriers (or by any other regulatory means), this alternative would, among other results: (i) eliminate the MD-80 as an aircraft qualified to serve JWA in some markets which it served prior to the noise level demonstration; (ii) substantially reduce the circumstances under which certain aircraft, particularly the Boeing 737 and 757 series aircraft and the Airbus A320, could operate as a Class AA aircraft, with a probable reduction in airport passenger service capacity; and (iii) substantially reduce, if not eliminate entirely, the Class E capacity for large air carrier operations at JWA.[21] This would, in turn, effectively impose a limitation on the number of passengers which can be served through JWA to a probable level substantially below the 8.4 million annual passengers ("MAP") contemplated by EIR 508/EIS, and permitted by the 1985 Settlement Agreement. Since the exact service capacity would be determined by the aircraft equipment and route changes which would be made by the airlines under those circumstances, the resulting effective passenger capacity cannot be predicted with certainty, but it seems apparent that it would be substantially less than the current service capacity.

In order to allow consistent comparisons between the proposed project and the various project alternatives, each project and alternative considered in this EIR has been given a specific "alternative" designation, *including the proposed project.* In addition, the two principal "alternatives" (the proposed project (Alternative 1) and "Alternative 2") are analyzed for potential noise, land use and biological impacts under alternative operations mix "scenarios" in order to provide a more complete comparative analysis between the scenarios. These three scenarios are referred to in this EIR as the "*Base Case Scenario,*" "*Scenario A*" and "*Scenario B.*" The assumptions underlying each analysis scenario are described in Section 3.1 (noise).

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[21] *See* Section 3.1, below, for a more complete discussion of "Class A", "Class AA" and "Class E" aircraft.

TABLE 1-2

SUMMARY OF PROJECT ALTERNATIVES

	No Project	Proposed Project* (Alternative 1) (1500/800'project)	Alternative 2 (800'/800'project)	Alternative 3 (existing 65 dB CNEL contour)***
Meet Project Objectives?**	No	Yes	Yes	No
Environmentally Superior Alternative?***	Yes	No	No	No
Increases to CNEL (Community Noise Equivalent Levels) as Against Pre-Demonstration Conditions	No	Up to 3.6 dB CNEL increase at some locations in Santa Ana Heights *(Significant impact)* No significant impacts south of RMS 3 and some noise reductions	Up to 2.6 dB CNEL increase at some locations in Santa Ana Heights *(Significant impact)* No significant impacts south of RMS 3 and some noise reductions	No increase in CNEL levels (No Impact)
Increases to SENEL (Single Event Noise Levels) as Against Pre-Demonstration Conditions	No	Up to 5.7 dB SENEL increase at some locations in Santa Ana Heights *(Significant Impact)* No significant impacts south of RMS 3 and some noise reductions	Up to 3.2 dB SENEL increase at some locations in Santa Ana Heights *(Significant Impact)* No significant impacts south of RMS 3 and some noise reductions	Unknown increases in SENEL levels due to carrier discretion in selecting aircraft types
Maintains Pre-Demonstration CNEL Contours	Yes	No	No	Yes
Decreases to SENEL Levels as Against Pre-Demonstration Conditions	No	No in Santa Ana Heights Yes in some locations south of TMS 21 and TMS 22	No in Santa Ana Heights Yes in some locations south of TMS 21 and TMS 22	No
Land Use Impacts	No Impact	Significant Impact	Significant Impact	No Impact

* *See* Section 2.3 for a description of the proposed project.

** *See* Section 2.3.1 for a description of the project objectives.

*** CEQA Guidelines Section 15126(d)(2) requires an EIR to identify the environmentally superior alternative. If the no project alternative is the environmentally superior alternative, the EIR must also identify which of the other alternatives would cause the least environmental damage.

**** This alternative is the next environmentally superior alternative after the no project alternative.

Finally, both Section 3.1 (noise) and Section 3.2 (land use) include an analysis of what is referred to as the "NOP Case." This refers to the proposed project, as described in the Notice of Preparation circulated in connection with preparation of this EIR. The "NOP Case" differs from what is referred to in this EIR as "the proposed project (Alternative 1)" in that the "NOP Case" does not include the mitigation measures proposed for implementation in Section 3.1 (noise) of this EIR.[22]

"Alternative 1" (as that term is used throughout this EIR) is the proposed project with the mitigation measures recommended in this EIR. Under the proposed project, the new maximum permitted noise limits at Monitoring Stations RMS 1, RMS 2 and RMS 3 would be set at noise levels which would accommodate a 1500 foot power cutback procedure for aircraft types which, historically, have demonstrated the ability to operate within the Class AA and Class E aircraft definitions of the PHASE 2 ACCESS PLAN,[23] and at noise levels which would accommodate an 800 foot power cutback procedure for the noisiest of the permitted Class A aircraft, the MD-80 series airplanes. (For a more detailed discussion of the proposed project (Alternative 1), *see* Section 2.3.4).

"Alternative 2" is identical to the proposed project (Alternative 1), except that the new maximum permitted noise limits for Class AA and Class E aircraft at Monitoring Stations RMS 1, RMS 2 and RMS 3 would be set at levels which would accommodate an 800 foot power cutback procedure by those aircraft rather than a 1500 foot power cutback procedure.[24] This would result in slightly lower maximum permitted noise levels at Monitoring Stations RMS 1, RMS 2 and RMS 3, but would probably result in slightly higher noise levels at all monitoring stations south of RMS 3 than would occur under the proposed

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[22] A non-mitigated project is not proposed for implementation, but is discussed in this EIR principally to allow evaluation and quantitative description of some of the recommended noise mitigation measures. Therefore, the "NOP Case" is not summarized in Table 1-2. It is, however, analyzed at length in both Section 3.1 (noise) and Section 3.2 (land use) of this EIR.

[23] As discussed more completely in Section 3.1 (noise), the "controlling aircraft" for this aspect of the proposed project (Alternative 1) are the Boeing 737-300+ and Boeing 757 series aircraft.

[24] The MD-80 requires - indeed it controls the noise definition of - a Class A ADD. While other procedures were tried during the noise demonstration test, only an 800 foot power cutback procedure by the MD-80 produced acceptable noise levels in the vicinity of Monitoring Stations RMS 1, RMS 2 and RMS 3.

project.[25] The 60 dB CNEL contour south of JWA would also be larger under Alternative 2 than under the proposed project (Alternative 1).

In addition, Alternative 2 may present practical problems for the air carriers. A 1500 foot power cutback procedure could have wide application at a number of different air carrier airports in the United States. However, the County is not aware of any airport or community which would select or urge the air carriers to use an 800 foot power cutback procedure at their airports. The reason for this is JWA's relatively short air carrier runway (5700 feet) and the close proximity of residential uses in Santa Ana Heights. At most air carrier airports in this country, which typically have runways between 9000 and 11,000 feet in length, RMS 1, 2 and 3 would still be on the runway or airport property. Since AC 91-53A will permit each air carrier to select two, and no more than two, NADPs for use by each of its aircraft types throughout the domestic United States, an alternative which requires the air carriers to define one of their two permitted NADPs in a manner which is useful or of benefit *only* at JWA presents obvious problems and issues relating to equitable treatment of other noise affected communities around the United States. This is particularly true since, compared to the residential communities around JWA, there are a large number of communities with substantially greater populations around other air carrier airports which are subject to substantially higher noise levels than those experienced in the vicinity of JWA.[26]

"Alternative 3" would accommodate whatever aircraft can be accommodated *within the existing 65 dB CNEL contour* at JWA, but would not allow that contour to expand from its current size, even though the current contour is significantly smaller than the "project case" contour predicted in EIR 508/EIS. This alternative would also result in a substantially reduced level of service, although, again, the exact level cannot be predicted precisely since it would be determined in part by choices within the discretion of the air carriers serving JWA. Aside from the reduction in service, implementation of this alternative would present two other major problems: first, it is unlikely that this alternative could be implemented without first complying with the study, notice and FAA approval requirements of the Airport Noise and Capacity Act of 1990 ("ANCA") and the implementing regulations in Federal

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[25] In effect, the 800 foot power cutback procedure is a procedure which, within the parameters of proposed AC 91-53A, is "optimized" to produce the lowest noise levels in the Santa Ana Heights area (the area where RMS 1, 2 and 3 are located) at the expense of noise levels further south of the airport. The 1500 foot procedure is a procedure designed by Boeing Aircraft Company which optimizes noise levels for its aircraft from the line defined by TMS 21 and 22 south (*see* Exhibit 3-1, in Section 3.1 for the location of these monitoring stations), at the expense of slightly higher noise levels at RMS 1, 2 and 3. For purposes of convenience in making comparisons between various project alternatives, the proposed project, as mitigated by the recommended mitigation measures identified in this EIR, is sometimes identified in the text and tables as "Alternative 1."

[26] To name just a few: Boston-Logan International Airport; JFK International Airport (New York); and Chicago-O'Hare International Airport.

Aviation Regulation ("FAR") Part 161.[27] Second, effective implementation of this alternative would require virtually a complete restructuring of the County's historical regulatory approach to managing JWA, and a complete restructuring of the PHASE 2 ACCESS PLAN. Particularly in light of the long and controversial history leading to the current regulatory structure at JWA, a change of this magnitude would be a serious undertaking, and probably could not be implemented effectively (if at all) until sometime in 1994.

The "no project" alternative has been identified as the "environmentally superior alternative," principally because it would maintain existing SENEL levels in Santa Ana Heights. Alternative 3 would also maintain existing CNEL levels, and for that reason is identified in this EIR as the next most environmentally superior alternative.[28]

1.6 AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

During the circulation of the Notice of Preparation, comments on the proposed project were received from governmental agencies, neighborhood associations and individual citizens. Specifically, comments were received from the following parties:

State Agencies and Offices

Governor's Office of Planning & Research

California Department of Fish & Game

Local Municipalities

City of Newport Beach

City of Costa Mesa

City of Irvine

City of Santa Ana

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[27] The Federal Aviation Regulations appear in Title 14 of the Code of Federal Regulations.

[28] CEQA Guidelines section 15126(d)(2) requires an EIR to identify the environmentally superior alternative. If the no project alternative is the environmentally superior alternative, the EIR must also identify which of the other alternatives would cause the least environmental damage.

Federal Agencies

United States Marine Corps (Marine Corps Air Bases, Western Area)

United States Fish and Wildlife Service

Private and Citizens Organizations

The Wildlife Society, Southern California Chapter

Airport Working Group of Orange County, Inc. ("AWG")
and
Stop Polluting Our Newport ("SPON") (by Shute, Mihaly & Weinberger)

Back Bay Community Association (by Printemps & Kaufman)

Concerned Homeowners of Sherwood Estates ("C.H.O.S.E.")

Copies of all written comments received during the scoping process are contained in Appendix B. A summary of these comments and references as to where each of the comments is addressed in this document are contained in Appendix C.

The potential adverse noise impacts and property value effects of the proposed project and its alternatives was the concern most frequently expressed by agencies, associations and individuals.

The primary issue to be resolved is whether to make the proposed amendments to the PHASE 2 ACCESS PLAN, and, if so, the selection of the alternative to be implemented. In addition to the proposed project, there are three alternatives described and evaluated in this EIR, including the no project alternative.

In terms of public policy, and assuming that a reduction in passenger capacity at JWA resulting from implementation of AC 91-53A is not an acceptable *policy* choice to the Board of Supervisors, the principal question presented by this EIR is the choice to be made between the proposed project (Alternative 1) and Alternative 2. The basic difference between these two alternatives is that the proposed project would result in higher single event and cumulative noise levels in the core area of Santa Ana Heights in the vicinity of the nominal departure path, while resulting in *reduced* noise levels further south of the airport. Alternative 2, on the other hand, would reduce the single event and cumulative noise level increases in the Santa Ana Heights area from those that would be expected to occur under the proposed project (Alternative 1), but would increase noise levels further

south of the airport (at least as compared to the proposed project). These differences are documented and discussed at length in Section 3.1 (noise), and in its tables and exhibits.

1.7 Incorporation Of Studies, Comments, Responses And Other Documents

This EIR contains reference to a number of studies, reports and other documents as providing a basis for, or source of information which is summarized in the body of the EIR. These documents are incorporated by reference into this EIR in accordance with Section 15150 of the CEQA Guidelines. Where a document, study or report is cited or referred to for convenience by a short-hand form in the body of the EIR, the reader should consult Appendix E for the full citation.

In particular, this document incorporates relevant portions of EIR 508/EIS, and particularly Section 4.15 (Volume 1), which contains the noise analysis of that EIR/EIS. Section 4.15 contains important information on the history and background of noise regulation at JWA; the effects of noise on people and various types of land uses; a discussion of other relevant state, local and federal regulations and statutes; and an analysis and evaluation of aircraft types, aircraft operations, single event and cumulative noise levels anticipated to be generated by implementation of the 1985 Master Plan, and alternative noise mitigation measures.

Appendix D to this EIR is particularly important and should be reviewed carefully by the reader. This Appendix is the consultant's report to the County on the conduct and results of the noise level demonstration.

This document also incorporates various staff reports and related documents addressing the Phase 1 and Phase 2 Access Plans. A list of references is contained in Appendix E.

During the circulation and consideration of this EIR, copies of each of these documents are available for public review during normal business hours at the following location:

Orange County Environmental Management Agency
Development Processing Center
12 Civic Center Plaza, Room G-19
Santa Ana, California 92702-4048
(714) 834-5550

Comments received by the County on this EIR during the public review period, and the responses to those comments, will become an integral component of the Final EIR.

CHAPTER 2

Project Description

2.1 PROJECT LOCATION

The project area includes the County owned property which comprises JWA, as shown on Exhibit 2-1 (regional map). Exhibit 2-2 is a vicinity map which shows these areas. In addition, a topographical map is provided on Exhibit 2-3. The project area also encompasses areas in the vicinity of JWA, including:

(i) the unincorporated residential and commercial areas located generally to the southeast of the airport which is commonly referred to as "Santa Ana Heights;"

(ii) commercial and residential areas further to the south of the airport located within the jurisdictional boundaries of the City of Newport Beach;

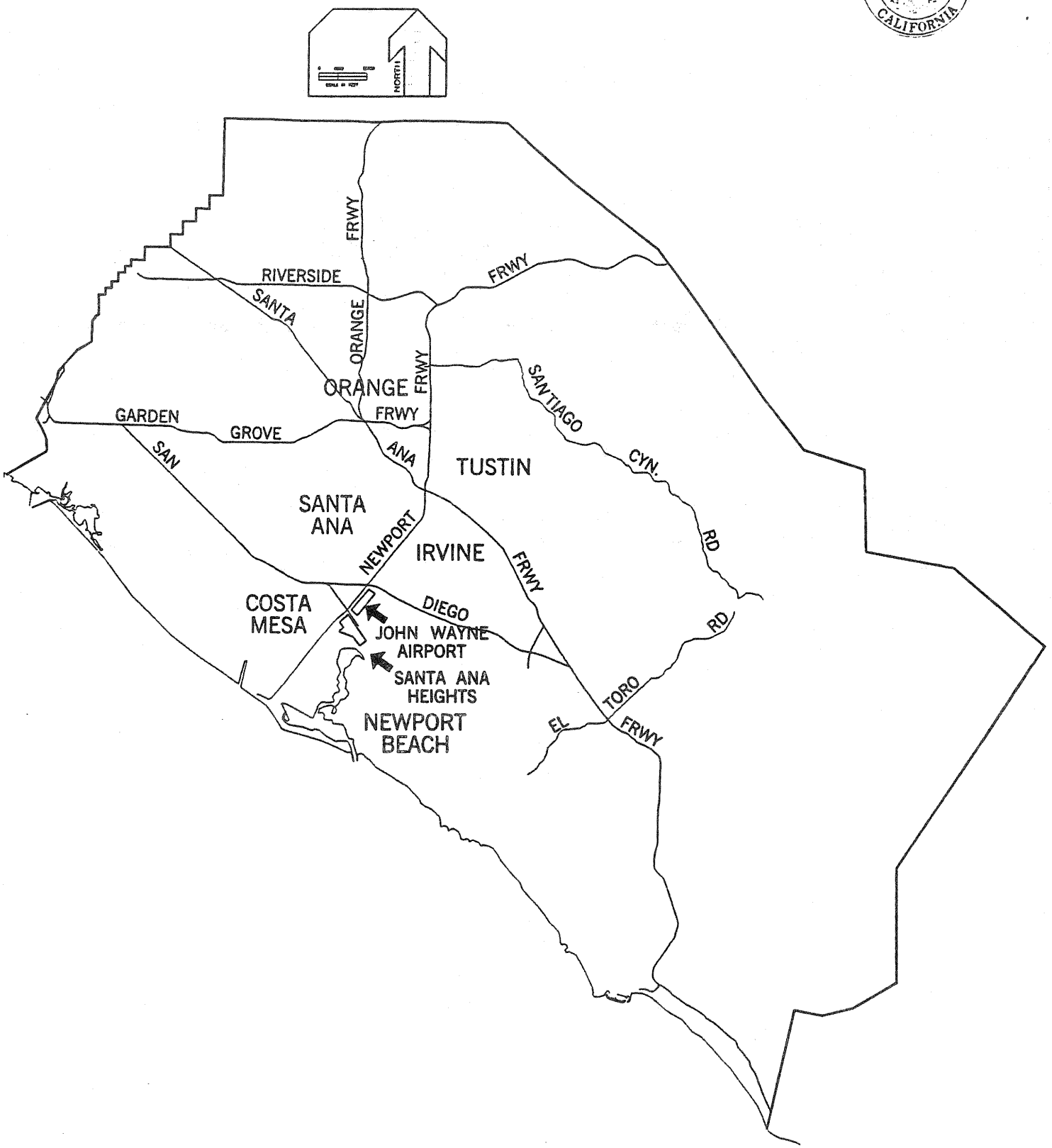
(iii) commercial and residential areas to the west and southwest of the airport located within the jurisdictional boundaries of the City of Costa Mesa;

(iv) commercial areas to the east of the airport located within the jurisdictional boundaries of the City of Irvine; and

(v) residential and commercial areas located generally to the north of the airport and within the jurisdictional boundaries (and adjacent unincorporated areas) of the cities of Orange, Santa Ana, Villa Park, and Tustin (shown on Exhibit 2-1).

The project area is predominantly urban in character. An extensive highway and local street system surrounds the area. The project area includes industrial, commercial, and residential land uses, as well as certain special purpose noise sensitive uses, such as schools and churches. The project area also includes a natural reserve and habitat to the south of the airport, commonly known as the "Upper Newport Bay Ecological Reserve" and the "Upper Newport Bay Regional Park." Exhibit 2-3 is a topographical map which shows the Upper Newport Bay.

REGIONAL MAP



COUNTY OF ORANGE

EXHIBIT 2-1

TOPOGRAPHICAL MAP

EXHIBIT 2-3

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2.2 ENVIRONMENTAL SETTING

2.2.1 THE NATURE AND ROLE OF JWA

JWA is a federally certificated airport which is part of the national air transportation system. Although no air carriers operate "hubs" at JWA, and the airport does not have facilities to support international operations, the local demand for passenger air travel service makes JWA an important segment of the national air transportation system. At the present time, JWA is the only airport located in Orange County which provides regularly scheduled commercial air service. The total airport area (including portions of a golf course to the south of the airport, which is separated from the airport itself by a major roadway, and which is not available for aeronautical uses) is approximately 504 acres. The area of the airport available for aeronautical uses and activities is approximately 400 acres.

JWA serves both general aviation and scheduled commercial passenger airline operations. The use of JWA is heavily regulated as a result of the limited area and facilities available at JWA to support commercial passenger activities, because of the environmental sensitivity of the local area, and because of a long history of airport related litigation extending back, at least, to 1969. Both as a result of local environmental concerns and limited facilities, JWA may not serve more than 8.4 million annual passengers ("MAP") through December 31, 2005 (a limitation which is also incorporated into the settlement stipulation and the confirming judgement of the United States District Court for the Central District of California entered in 1985). The current level of service is approximately 6.0 MAP.[29]

2.2.2 HISTORY OF REGULATION OF AIRPORT USE AND OPERATIONS AT JWA

The essential character of JWA as an airport facility, both operationally and environmentally, is defined by the significant and substantial physical and environmental constraints affecting public use of the facility. Regularly scheduled commercial service was first initiated at JWA in 1967, and since the late 1960s, the County has regulated the use and operation of JWA by a variety of means in an effort to control and reduce any adverse environmental impacts caused by aircraft operations to and from JWA.

These regulations have included such restrictions as: (i) strict noise based limitations on the type of aircraft which are permitted to use JWA - including both commercial and general aviation aircraft; (ii) a nighttime "curfew" on aircraft operations exceeding certain specified noise levels; and (iii) limitations on the number of average daily commercial departures which can occur at the facility. The controlled nature of the airport's operation, arising from a wide range of political, social and economic considerations,

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[29] This level of service is estimated for the Plan Year from April 1, 1992, to March 31, 1993.

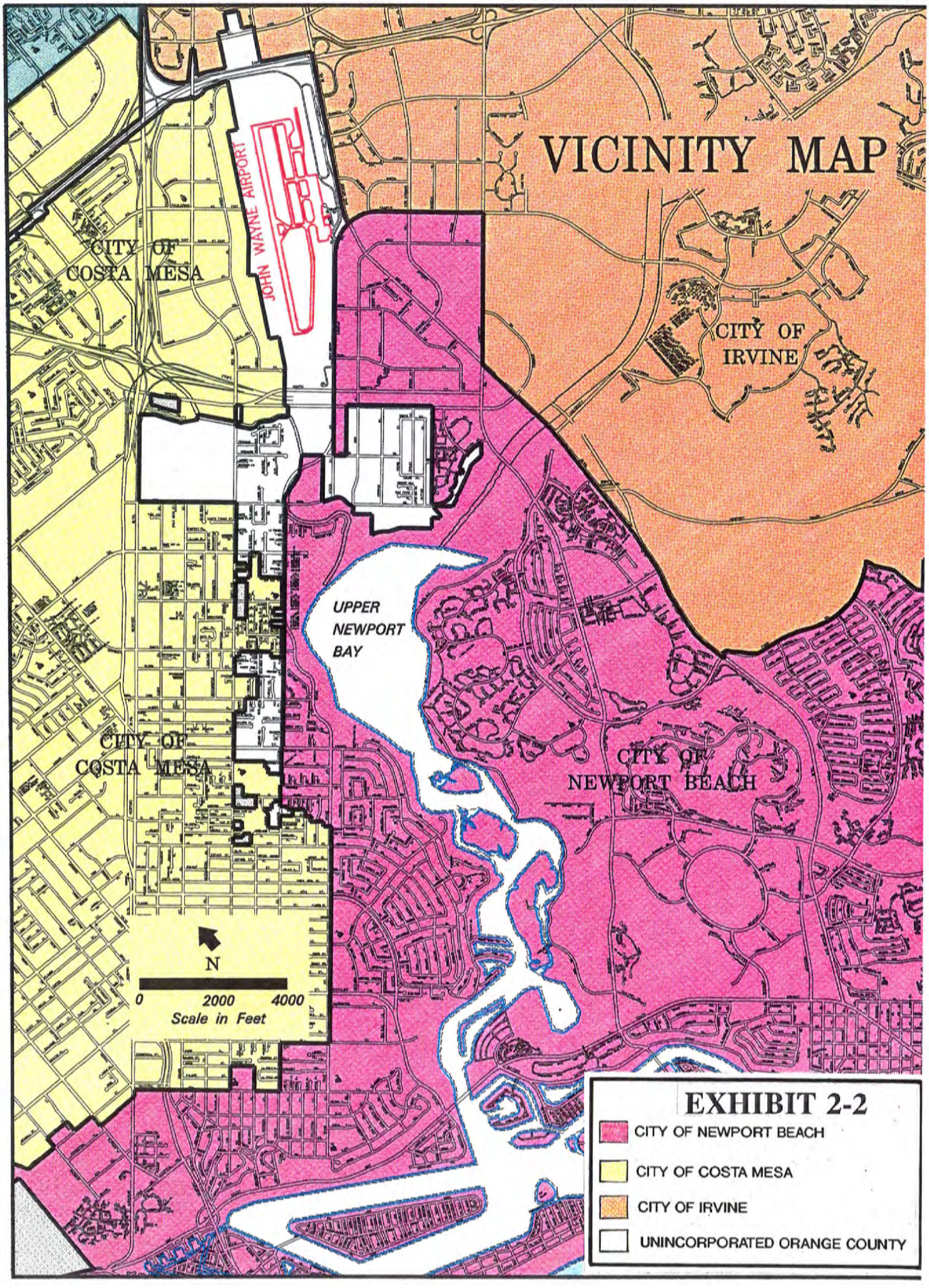
hasbecome institutionalized to the extent that the regulated nature of the airport is a definitional component of its character as an air transportation facility.

One of the principal means of controlling aircraft noise at JWA has been limitations placed upon the number of average daily departures ("ADDs") by regularly scheduled air carriers using JWA. These restrictions have been adopted in resolutions of the Board of Supervisors and incorporated into various agreements between the County (as the proprietor) and its airline tenants. After 1980, these restrictions also became elements of various "access plans" adopted by the County, including the PHASE 2 ACCESS PLAN. Prior to 1985, the maximum number of permitted ADDs was 41. One of the significant project elements of the 1985 Master Plan was to increase the permitted number of ADDs in two phases: Phase I (1985-1990) increased the total number of *regulated* (*i.e.*, "Class A" and "Class AA") flights to 55 ADDs, and Phase II permitted an increase in the number of *regulated* flights to 73 ADDs.

These ADDs are allocated among the regularly scheduled commercial airlines by a formula and process described in the PHASE 2 ACCESS PLAN (and in the staff reports prepared in connection with the consideration and adoption of the PHASE 2 ACCESS PLAN by the Board). The ADDs are, in turn, divided into separate "classes" based upon the noise characteristics of the aircraft permitted to operate within those "classes." The "noisiest" class of ADD is designated in the PHASE 2 ACCESS PLAN as "Class A" ADDs. Under the terms of the plan (and under the settlement agreement between the County, the City of Newport Beach, SPON and AWG, and the confirming judgment of the United States District Court for the Central District of California), the County may not allocate more than a total of 39 of these ADDs during the "Phase 2" period. The next quietest class of ADDs is designated in the plan as "Class AA" ADDs. During the Phase 2 period, the County may not allocate more than a total of 73 Class A and Class AA ADDs; and since the County has allocated 39 Class A ADDs, this means that a total of 34 Class AA ADDs may be (and have been) allocated.

The PHASE 2 ACCESS PLAN (and the 1985 Settlement Agreement) defines a third "class" of commercial aircraft operations based upon the noise characteristics of the aircraft, "Class E" aircraft. Aircraft which can operate within the noise limits permitted by the PHASE 2 ACCESS PLAN for Class E aircraft are not regulated by the number of flights. For purposes of Class E operations by passenger air carriers and commuter carriers, the number of flights is limited by "seat allocations" and "passenger capacity allocations," respectively.

Class A ADDs are the most valuable operating rights for scheduled commercial carriers using JWA. The importance of these ADDs arises largely because the maximum permitted noise levels for Class A operations are the highest of the three classes. This, in turn, allows the aircraft to depart with more weight, principally additional fuel, which allows the aircraft a greater non-stop range from JWA. Class A ADDs are essential for


VICINITY MAP
JOHN WAYNE AIRPORT
CITY OF COSTA MESA
CITY OF IRVINE
UPPER NEWPORT BAY
CITY OF COSTA MESA
CITY OF NEWPORT BEACH
N
0 2000 4000
Scale in Feet
EXHIBIT 2-2
CITY OF NEWPORT BEACH
CITY OF COSTA MESA
CITY OF IRVINE
UNINCORPORATED ORANGE COUNTY

medium and long-haul service out of JWA, principally on east-west routes. The existing maximum permitted noise levels are discussed in Section 2.3, below.[30]

2.2.3 History of Environmental Controversies Involving the Airport

JWA has a long history of environmental controversies which continue to the present day. A more detailed history of those controversies through 1984 is contained in Volume I of EIR 508/EIS, which has been incorporated by reference in this document. The County has been a defendant in numerous and substantial noise damage litigation initiated by residential property owners living generally to the south of the airport in Santa Ana Heights and in Newport Beach. The City of Newport Beach has also initiated a number of lawsuits against the County since 1969 in an attempt to preclude any expansion of airport facilities or operations.

In 1985, the County initiated declaratory relief litigation in the United States District Court for the Central District of California (*County of Orange v. Air California, et al., etc.,* USDC C.D.Cal. Civ. No. 85-1542 (TJH)(MCx)) in respect of EIR 508/EIS. On December 15, 1985, the United States District Court entered a final judgment ("the confirming judgment") between the County, the City of Newport Beach, SPON and AWG ("the settling parties") based upon a stipulation executed and submitted to the Court in November 1985 ("the 1985 stipulation" or "the settlement stipulation"). In addition, the FAA and various other parties, including various certificated commercial airlines, were also parties to this action.

The 1985 stipulation and the confirming judgment (which incorporated the terms of the 1985 stipulation) contained certain provisions binding upon, among others, the County, from the date of the Court's entry of the confirming judgment through December 31, 2005. The settling parties agreed, among other things, that:

> (i) during Phase I and Phase II, no aircraft generating noise levels greater than those permitted for Class A Aircraft would be permitted to engage in regularly scheduled commercial service at JWA;
>
> (ii) during Phase II, no more than 73 ADDs by Class A Aircraft and Class AA Aircraft would be permitted to operate at JWA;

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[30] "Maximum Permitted Noise Levels" established at the regulatory monitoring stations for scheduled commercial operations (air carrier and commuter) are defined in terms of energy averaged SENEL levels measured over each calendar quarter.

(iii) during Phase II, no more than 39 of the permitted 73 ADDs would be allocated to, and operated by, aircraft operating at JWA as Class A Aircraft;

(iv) during Phase II, the permitted number of operations by "Exempt Aircraft" (*i.e.*, Class E Aircraft) is unlimited, except that the combined number of passengers served by Exempt Aircraft, Class A Aircraft and Class AA Aircraft in regularly scheduled commercial service may not exceed 8.4 MAP; and

(v) Class A Aircraft, Class AA Aircraft and Exempt (*i.e.*, "Class E") Aircraft are defined in the 1985 stipulation in terms of certain specified noise levels, as measured at defined "Criterion Noise Monitoring Stations" and "Departure Noise Monitoring Stations." These maximum permitted noise levels are consistent with the maximum permitted noise levels defined in the PHASE 2 ACCESS PLAN.

2.3 SUMMARY OF THE PROPOSED PROJECT AND PROJECT OBJECTIVES

2.3.1 PROJECT OBJECTIVES

The principal objective of the proposed project is to allow the County to establish new maximum permitted noise levels for the three classes of commercial aircraft at the monitoring stations located in the Santa Ana Heights area in order to: (i) preserve the operational capacity at JWA contemplated by the Phase 2 Access Plan; and (ii) accommodate the FAA's concerns regarding the safety, and potential proliferation, of airport specific noise abatement departure procedures.

2.3.2 PROJECT BACKGROUND

Since at least 1990, FAA has received various suggestions, complaints and input from certain airline pilots unions (principally, but not exclusively, the Air Line Pilots Association ["ALPA"]) to the effect that certain (but not all) of the noise abatement departure procedures previously approved by FAA for use by certain airlines and aircraft types at JWA are not consistent with the views of those organizations regarding the operation of commercial aircraft with a desirable margin of safety. ALPA and the other commercial pilots organizations have also expressed strong concern to FAA regarding the safety implications of a possible proliferation of airport specific noise abatement departure procedures being implemented (or "encouraged") by various other commercial airports in the United States. ALPA and the other commercial pilot organizations have suggested that FAA take advisory and, if necessary, regulatory action to establish minimum operational

standards and criteria for noise abatement departure procedures which would be implemented on a uniform basis nationwide.

In response to the suggestions of the pilot organizations and subsequent FAA working group recommendations, FAA has taken certain actions in order to discharge its statutory obligation to ensure the safe operation of aircraft in flight. Specifically:

(a) FAA formed advisory working groups to study and advise FAA on:

(i) appropriate parameters for noise abatement departure procedures which would provide a reasonable margin of safety in such operations to protect the best interests of the air travelling public. This led to the preparation of a draft FAA Advisory Circular ("AC") which has been published for comment in the Federal Register (57 FR 34990 [August 7, 1992]), and is presently designated for comment purposes as AC 91-53A ("First Working Group"); and

(ii) the noise and other environmental consequences of the contemplated change in permitted noise abatement departure procedures ("Second Working Group"); and

(b) Based upon the results and recommendations of the First Working Group, and subject to various other legal and regulatory requirements, FAA is considering adopting AC 91-53A and, perhaps, amending operating certificates of all certificated commercial airlines operating in the United States, to impose limitations consistent with the proposed operational parameters and minimums specified in proposed AC 91-53A.

The first working group was formed before the County became aware of this activity at the federal level. Members of the first working group generally consisted of airline representatives, representatives of ALPA, other pilots' unions, and other industry participants. The County is an active member of the Second Working Group. The County has advised FAA that: (i) the changes suggested in proposed AC 91-53A could adversely affect the ability of certain air carriers using JWA to continue to operate within their previously approved noise classification; (ii) the changes suggested in proposed AC 91-53A could adversely affect the operational capacity of JWA in light of the terms and limitations of the 1985 stipulation and confirming judgment; (iii) the County understands FAA's responsibilities in respect of regulating aircraft operating procedures to ensure safe aircraft operations, and the safety of the air travelling public; and (iv) the County wishes to cooperate in the processes by which FAA will consider and may implement advisory circular

amendments and/or regulatory actions implementing new noise abatement departure limitations.

As part of its cooperation with FAA, in order to provide relevant information to the Second Working Group, of which the County is a member, and in order to obtain relevant noise data upon which the County could consider possible necessary amendments to the PHASE 2 ACCESS PLAN, the County volunteered, with the consent and cooperation of the City of Newport Beach, SPON, AWG, the airlines and FAA, to conduct a noise level demonstration at JWA in three phases, beginning April 1, 1992. The demonstration was originally scheduled to continue through December 31, 1992. However, for reasons discussed below, the interested and affected parties have agreed to extend the demonstration to March 31, 1993.

Phase I of the demonstration occurred from April 1, 1992 to June 30, 1992. During this period, aircraft which were initiating power reductions at altitudes below 800 feet, or which were cutting back power below the power necessary to maintain a 1.2% engine-out climb gradient, were exempted from the noise restrictions of the PHASE 2 ACCESS PLAN and operated within the minimum 91-53A parameters.

Phase II of the demonstration occurred from July 1, 1992 to September 30, 1992, and involved all scheduled commercial aircraft using JWA in a variety of different departure procedures and profiles. This was the main data gathering phase of the noise demonstration. The principal purpose of this phase was to identify maximum noise levels at the regulatory monitoring stations which would require adjustment to accommodate the change in FAA's limitations on noise abatement departure profiles and still provide the lowest reasonable noise limits south of JWA.

Phase III of the demonstration began on October 1, 1992, and will continue until March 31, 1993. The principal purpose of extending the test to March 31, 1993, was to allow collection of additional noise data during the months of October and November 1992. During Phase III, generally, the carriers agreed to fly only those departure procedures identified after analysis of the preliminary Phase II noise data as being procedures which could operate within the lower range of single event noise levels south of the airport. Phase III was also extended to March 31, 1993, in order to allow sufficient time for environmental analysis and other administrative processes necessary to permit amendments to the PHASE 2 ACCESS PLAN.

Finally, Phase III of the noise demonstration also focuses on one of the primary policy issues raised as a result of the anticipated change in FAA policy. Each of the major aircraft types using JWA, including the MD-80 series aircraft, the Boeing 737-300 and 400 series aircraft, and the Boeing 757 series aircraft are being operated by some of the airlines using a noise abatement departure procedure which initiates power reduction at an altitude of 800 feet above field elevation ("AFE") (*i.e.*, the altitude of the air carrier runway

[19R/01L] at JWA).[31] Another group of airlines are operating with departure procedures where power reduction is initiated at an altitude of 1500 feet AFE.[32] Generally, the 800 foot procedures result in lower noise level increases in Santa Ana Heights and lesser noise level reductions in areas south of Santa Ana Heights (as compared to the noise exposure of the 1500 foot procedure). The 1500 foot procedure, on the other hand, is designed to maximize the noise level reductions in residential areas south of Santa Ana Heights, but would result in greater noise increases in some areas of Santa Ana Heights (as compared to noise levels created by the 800 foot procedures).

For purposes of this demonstration, the County used the six permanent remote monitoring stations ("RMS") south of the airport (RMS 1 through RMS 6). The County also installed eight temporary monitoring stations ("TMS") in areas south of Santa Ana Heights during the test period, which are presently designated as TMS 21 through TMS 28. Exhibit 3-1 in Section 3.1 is a map of the area south of JWA and identifies the current locations of RMS 1 through 6 and TMS 21 through 28. During the demonstration period, the County also rented and installed a flight tracking system called PASSUR. The PASSUR system allows passive radar tracking of aircraft departing JWA and facilitates correlation of noise level information with specific flights, specific aircraft types, and specific noise abatement departure procedures. An extensive computerized data base has also been developed and used to track relevant variables in noise level generation. Mestre Greve Associates has acted as the noise consultant to the County for this demonstration. Again, a complete copy of the Mestre Greve Associates report, including its extensive tables and exhibits, is included as part of this EIR as Appendix D.

The County has obtained and conducted its review of the data from Phase I and Phase II of the demonstration, and from the months of October, November, and December, 1992. This information provides a satisfactory data base to permit consideration of, and an environmental analysis of, possible changes to the maximum permitted noise levels, as presently defined in the PHASE 2 ACCESS PLAN.

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[31] Although the Boeing 757, 737 and McDonnell Douglas MD-80 series aircraft are the principal aircraft types currently using JWA, other commercial aircraft types using the airport during the demonstration period, including the Airbus A-320 and the BAe-146 have also been involved in the demonstration, and their noise characteristics under alternative noise abatement departure procedures is also being analyzed.

[32] During part of Phase III, the MD-80 was also flown using a 1200 foot power reduction procedure. This procedure did not result in acceptable (or improved) noise levels, and the procedure is not currently being used by the MD-80 operators. Rather, all MD-80s are now operating at JWA using an 800 foot procedure as anticipated both by the proposed project and "Alternative 2."

2.3.3 PROPOSED PROJECT COMPONENTS

The proposed project consists of two principal components. The first project component contemplates Board adoption of amendments to the PHASE 2 ACCESS PLAN which would be required to accommodate the departure procedure policy changes reflected in proposed AC 91-53A. These possible amendments are described in more detail below. Generally, however, the maximum permitted noise levels for Class A, Class AA and Class E aircraft would have to be increased. The analysis of the noise demonstration data indicates that the maximum permitted noise levels would have to be increased for Class A, AA and E aircraft at RMS 1, 2 and 3 (Santa Ana Heights). The noise demonstration data also indicates that the existing maximum permitted noise levels would not have to be increased for Class AA and Class E aircraft at RMS 4, 5 or 6, and that the maximum permitted noise levels at TMS 21, 22 and 24, if they become permanent monitoring stations as proposed by this project, could be set at the existing levels established for RMS 4, 5 and 6.[33] "Alternative 2" would also make changes to the maximum permitted noise levels at RMS 1, 2 and 3, but at lower levels than would be the case under the proposed project (Alternative 1). No changes would be made to the maximum permitted noise levels under the "no project" alternative. Under "Alternative 3," single event regulation would become irrelevant, and each operator would instead be allocated a "CNEL share" which would allow the air carrier the discretion to select the type of aircraft to operate at JWA.

The second - and related - project component would be amendments to the PHASE 2 ACCESS PLAN to add three new noise monitoring stations south of the airport to the definition of maximum permitted noise levels for Class AA and E aircraft.[34] This would assist in monitoring compliance with the revised noise limits for the entire flight track from Santa Ana Heights to the Pacific Ocean. These three new monitoring stations would be located at or near the location of the present TMS 21, 22 and 24 (*see, e.g.,* Exhibit 2 in Appendix D and the noise contour figures in Section 3.1 of this EIR). With the addition of these three stations as regulatory monitoring stations, the County also proposes eventually to remove existing monitoring stations RMS 4 and RMS 5, eliminating RMS 4 and 5 as regulatory monitoring stations. RMS 4 and 5 were part of the original JWA noise monitoring system implemented in the early 1970s. With the complete change in the fleet mix using JWA to Stage 3 aircraft in the early 1980s, these two stations became largely

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[33] The settlement stipulation and the PHASE 2 ACCESS PLAN define Class A Aircraft only in terms of monitoring stations RMS 1, 2 and 3. There are no "Class A limits" defined for monitoring stations RMS 4, 5 and 6, although since those stations are all further south (and, in the case of RMS 4 and 5, further from the nominal flight track) than RMS 1, 2 and 3, the energy average SENEL levels for Class A aircraft will be lower south of Santa Ana Heights than the levels generated at RMS 1, 2 and 3. As discussed in Section 3.1, the County is proposing project mitigation which would establish maximum permitted noise levels for Class A Aircraft at the proposed new monitoring stations, TMS 21, 22 and 24, and at RMS 6.

[34] Generally, these noise monitoring stations consist of a pole secured to the ground. A microphone, dedicated telephone line, and related hardware which connect directly to the central noise monitoring computer at the airport noise abatement office are also located on, or as part of, the monitoring pole.

irrelevant since the quieter Stage 3 aircraft register at those two stations only infrequently.[35] TMS 21, 22 and 24 are all located closer to the nominal aircraft flight track than RMS 4 and 5 and would provide more consistent and reliable noise data than RMS 4 and 5. However, if the County does eventually remove RMS 4 and 5, it would first conduct "side-by-side" monitoring with TMS 21, 22 and 24 fully operational for at least six months. This would protect the consistency and integrity of the long-term and extensive noise level data base which is available to the County based upon its continuous noise monitoring for almost 20 years in areas south of JWA. This project component would also be implemented as part of "Alternative 2," but would not be part of the no project alternative or "Alternative 3."[36]

The existing sections of the PHASE 2 ACCESS PLAN which regulate noise levels for scheduled commercial operations are Sections 2.11 (Class A ADDs), 2.12 (Class AA ADDs) and 2.13 (Class E ADDs). As they currently exist, those sections of the PHASE 2 ACCESS PLAN are set forth below. Class A Aircraft are defined in the PHASE 2 ACCESS PLAN as follows:

> **"2.11 CLASS A AIRCRAFT**
>
> *Class A Aircraft* means aircraft which: (i) operate at gross takeoff weights at *JWA* not greater than the *Maximum Permitted Gross Takeoff Weight* for the individual aircraft main landing gear configuration, as set forth in Section 2.26;[37] and which (ii) generate actual energy averaged *SENEL* levels, averaged during each *Noise Compliance Period*,[38] as measured at the *Criterion Monitoring Stations*, which are not greater than the values:

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[35] "Stage 3 aircraft" are defined in Part 36 of the Federal Aviation Regulations (14 CFR §§36.1, *et seq.*). Generally, aircraft originally manufactured as "Stage 3 aircraft" incorporate the more advanced noise reduction technology, and, all other factors being equal, are the quietest aircraft in the commercial aircraft fleet.

[36] Since the County is proposing in this EIR to make TMS 21, 22 and 24 permanent monitoring stations in the JWA noise monitoring system, in the balance of this EIR those stations will be referred to as "RMS" 21, 22 and 24.

[37] This project would not amend the maximum permitted gross takeoff weight limitations of Section 2.26 of the PHASE 2 ACCESS PLAN.

[38] A *Noise Compliance Period* is defined in Section 2.28 of the plan as a calendar quarter.

MONITORING STATION	ENERGY AVERAGED DECIBELS
M3:	98.5 *dB SENEL*
M1:	100.8 *dB SENEL*
M2:	100.9 *dB SENEL*[39]

In determining whether an aircraft is a *Class A Aircraft,* its noise performance at the *Criterion Monitoring Stations* shall be determined at each individual monitoring station, and the aircraft must meet each of the monitoring station criteria, without "trade-offs," in order to qualify as a *Class A Aircraft.*"

Class AA Aircraft are defined in the PHASE 2 ACCESS PLAN as follows:

"2.12 CLASS AA AIRCRAFT

Class AA Aircraft means aircraft which: (i) operate at gross takeoff weights at *JWA* not greater than the *Maximum Permitted Gross Takeoff Weight* for the individual aircraft main landing gear configuration, as set forth in Section 2.26; and which (ii) generate actual energy averaged *SENEL* levels, averaged during each *Noise Compliance Period,* as measured at the *Departure Monitoring Stations,* which are not greater than the values:

MONITORING STATION	ENERGY AVERAGED DECIBELS
M3, M4, M5 & M6:	89.5 *dB SENEL*
M1:	90.3 *dB SENEL*
M2:	90.4 *dB SENEL*[40]

[39] When originally adopted in 1985, the maximum permitted noise levels for Class A aircraft at RMS 1 and 2 were 100.0 dB SENEL. However, in the late 1980s, the County lost its rights of occupancy with respect to the land where RMS 1 and 2 were located. The monitoring stations were relocated closer to the nominal flight track. Tests were conducted before the old RMS 1 and 2 were relocated to determine the appropriate noise level adjustments required by the relocation in order to maintain comparable regulation. The study indicated that the maximum permitted noise levels (for all classes of aircraft) needed to be increased by .8 dB SENEL at RMS 1 and .9 dB SENEL at RMS 2, and the Board approved related amendments to the Phase 1 Access Plan.

[40] Again, when originally adopted, the maximum permitted noise level was 89.5 db SENEL at all *Departure Monitoring Stations*, and was adjusted upward at RMS 1 and 2 at the time those stations were relocated.

In determining whether an aircraft is a *Class AA Aircraft,* its noise performance at the *Departure Monitoring Stations* shall be determined at each individual monitoring station, and the aircraft must meet each of the monitoring station criteria, without "trade-offs," in order to qualify as a *Class AA Aircraft.*"

Finally, Class E Aircraft are defined in the PHASE 2 ACCESS PLAN as follows:

"2.13 Class E Aircraft

Class E Aircraft means aircraft which: (i) operate at gross takeoff weights at *JWA* not greater than the *Maximum Permitted Gross Takeoff Weight* for the individual aircraft main landing gear configuration, as set forth in Section 2.26; and which (ii) generate actual energy averaged *SENEL* levels, averaged during each *Noise Compliance Period,* as measured at the *Departure Monitoring Stations,* which are not greater than the values:

MONITORING STATION	ENERGY AVERAGED DECIBELS
M3, M4, M5 & M6:	86.0 *dB SENEL*
M1:	86.8 *dB SENEL*
M2:	86.9 *dB SENEL*[41]

In determining whether an aircraft is a *Class E Aircraft,* its noise performance at the *Departure Monitoring Stations* shall be determined at each individual monitoring station, and the aircraft must meet each of the monitoring station criteria, without "trade-offs," in order to quality as a *Class E Aircraft.*"

2.3.4 DEFINITION OF THE PROPOSED PROJECT: PHASE 2 ACCESS PLAN AMENDMENTS

PROJECT COMPONENT 1

Increased Maximum Permitted Noise Levels at RMS 1, 2 and 3

The proposed project (Alternative 1) would involve the County amending the relevant sections of the PHASE 2 ACCESS PLAN (those sections quoted above) to increase the maximum permitted noise levels for each class of aircraft at RMS 1, 2 and 3 to

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[41] When originally adopted, the maximum permitted noise level was 86.0 db SENEL at all *Departure Monitoring Stations*, and was adjusted upward at RMS 1 and 2 at the time those stations were relocated.

accommodate the 1500 foot noise abatement departure procedures currently being demonstrated for Boeing 757 and Boeing 737-300 and -400 aircraft, and to accommodate the 800 foot noise abatement departure procedure for the MD-80 series aircraft. Other commercial aircraft types currently using JWA are expected to be able to operate within these revised noise limits at "classes" consistent with the use and operation of those aircraft types prior to the beginning of the noise demonstration. The increase in noise levels contemplated by the proposed project are as follows:

Class A Aircraft

The noise level definition of Class A Aircraft is controlled primarily (if not exclusively) by the operation of MD-80 series aircraft. In order to accommodate an 800 foot noise abatement departure procedure for these aircraft, the maximum permitted noise levels must be raised to 101.5 dB SENEL at RMS 1, 101.0 dB SENEL at RMS 2, and 100.5 dB SENEL at RMS 3. This represents an increase of 2 dB SENEL or less at each of these three noise monitoring stations.

Class AA Aircraft

The noise level definition of Class AA Aircraft would be controlled by the use of a 1500 foot noise abatement departure procedure by the Boeing 737 and 757 aircraft currently using the airport. In order to accommodate those flights, the maximum permitted noise levels must be raised to 94.0 dB SENEL at RMS 1 and 2 and 91.0 dB SENEL at RMS 3. This represents an increase of 4.2 dB SENEL or less at each of these three noise monitoring stations. No change would be made to the current limit of 89.5 dB SENEL at monitoring stations RMS 4, 5 and 6. 89.5 dB SENEL would be the maximum permitted noise level at the proposed new RMS 21, 22 and 24.

Class E Aircraft

The noise level definition of Class E Aircraft would again be controlled principally by the use of a 1500 foot noise abatement departure procedure by the Boeing 737 and 757 aircraft currently using the airport[42] - although at lower gross takeoff weights than could be used for Class AA Aircraft. In order to accommodate those flights, the maximum permitted noise levels must be raised to 92.5 dB SENEL at RMS 1 and 2, and 89.0 dB SENEL at RMS 3. This represents an increase of 3.5 dB SENEL at RMS 3 and an increase of approximately 5.7 dB SENEL at RMS 1 and 2. There would be no change

[42] Both the 737 and 757 series aircraft currently using the airport have been qualified as Class E Aircraft under the terms of the PHASE 2 ACCESS PLAN. The 737-300 has been regularly used as a Class E Aircraft by America West throughout the Phase 2 period (and before).

to the current limit of 86.0 dB SENEL at RMS 4, 5 and 6. 86.0 dB SENEL would be the maximum permitted noise level at the proposed new RMS 21, 22 and 24.

PROJECT COMPONENT 2

Action to make TMS 21, 22 and 24 Permanent Regulatory Monitoring Stations, and the Removal of RMS 4 and 5.

This second component of the project would add (and renumber appropriately) TMS 21, 22 and 24 as permanent regulatory noise monitoring stations (*i.e.*, "RMS") for Class AA and Class E Aircraft. The maximum permitted noise levels for RMS 21, 22 and 24 would be set at 89.5 dB SENEL for Class AA aircraft and 86.0 dB SENEL for Class E Aircraft. These levels are identical to existing regulatory limits in the general areas where RMS 21, 22 and 24 are located. The County does not anticipate that any aircraft now using JWA in the Class AA or Class E category would be unable to meet these maximum permitted noise levels.

In addition, after at least six months of "side-by-side" monitoring after RMS 21, 22 and 24 are made permanent regulatory monitoring stations, the County would remove RMS 4 and 5 and make administrative amendments to the PHASE 2 ACCESS PLAN at that time to eliminate references to RMS 4 and 5. Permanently incorporating RMS 21, 22 and 24 into the JWA noise monitoring system will provide enhanced monitoring and enforcement capability for the County in the general area where RMS 4 and 5, and RMS 21, 22 and 24 are located.

2.3.5 MITIGATION MEASURES ADOPTED AS PART OF THE PROPOSED PROJECT

In addition to those project components described above, the proposed project, as analyzed in this EIR, also includes proposed conditions, mitigation measures and modifications to the project identified during the course of the environmental analysis. These modifications and mitigation measures serve three separate purposes with respect to this project: first, as discussed earlier, this project requires a consensus between the County, the City of Newport Beach, SPON, AWG, the FAA and the scheduled users of JWA in order to be implemented without litigation. It has also been a goal of this process to achieve consensus - to the extent possible - with all of the relevant and interested parties to this process. In an effort to achieve the greatest possible degree of consensus, all of the parties to this process (including the County) have made significant concessions to the interests and

concerns of the others. This has resulted in certain conditions and mitigation measures being identified as project elements.[43]

Second, CEQA itself requires identification and consideration of reasonable and feasible project mitigation measures. Although the impacts of this proposed project are either insignificant, or relatively low compared to other types of possible airport projects, the controversial nature and history of the interaction of JWA and the surrounding communities makes consideration of mitigation measures particularly important.

Land use mitigation measures have received special consideration in this environmental analysis because of the prior land use commitments and actions taken by the County to address land use issues, particularly in Santa Ana Heights. Significant effort and expense has been incurred in acoustical insulation ("soundproofing") and purchase assurance programs in Santa Ana Heights in those areas which were intended to remain residential under the 1985 Land Use Compatibility Program ("LUCP") for Santa Ana Heights. In addition, significant effort and expense has been made with respect to the conversion of residential land uses in some areas of Santa Ana Heights to uses more compatible with airport operations. The County desires to preserve as much of the benefit of those actions as possible, and to minimize the extent to which the proposed Access Plan amendments will require additional extensive land use conversions or other mitigation actions.

The third purpose underlying some of the proposed conditions and mitigation measures is the fact that, although the noise level testing conducted as part of the environmental evaluation process was relatively extensive and produced a substantial amount of data, it is not possible to eliminate or entirely account for all variables which may affect establishing new maximum permitted noise levels. Therefore, certain modifications have been made to the project to allow continuing evaluation and, if necessary, some modification of the noise levels proposed for the Access Plan as part of this project.

Conditions on the project, and proposed mitigation measures incorporated into the proposed project (Alternative 1), include the following:

NOISE LEVEL MITIGATION

Maximum Permitted Noise Levels

The County's continuing analysis of the noise level demonstration data indicates that maximum permitted noise level increases at RMS 1, 2 and 3 can, in some cases, be set below the levels originally proposed for the project and reflected in the Notice

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[43] Each of these mitigation measures is also proposed for "Alternative 2" if that alternative is selected by the Board of Supervisors. None of the mitigation measures would be needed or proposed for the no project alternative or "Alternative 3."

of Preparation ("NOP") for this EIR. The proposal to adopt the maximum permitted noise levels for certain monitoring stations and classes of commercial aircraft at levels below those specified in the Notice of Preparation is related to the mitigating conditions summarized below, including the proposal to extend the data collection period and to limit the initial term of the Access Plan amendments. The modified noise levels are reflected in the discussion of the proposed project in Section 2.3.3. A complete discussion of this mitigation measure is contained in Section 3.1.5.

Establishment of Class A Limits at RMS 21, 22, 24 and 6[44]

In order to ensure compliance with the intent of the Access Plan modifications, the County is also proposing as project mitigation the establishment of maximum permitted noise levels at RMS 21, 22, 24 and 6. The maximum permitted Class A noise levels at those monitoring stations is, respectively: 93.5 dB SENEL at RMS 21 and 22; 95.5 dB SENEL at RMS 24; and 92.0 dB SENEL at RMS 6, the most southerly of the existing (and proposed new) monitoring stations.

LAND USE MITIGATION MEASURES

As discussed in Section 3.2, various land use mitigation measures have been proposed for inclusion as part of the proposed project. In summary, those measures are as follows:

Continuation of the Acoustical Insulation Program

The County would terminate the existing program moratorium and then continue the Acoustical Insulation Program in the Santa Ana Heights area originally implemented as mitigation under EIR 508/EIS. There are over 290 residential units currently on the waiting list for this program and the County expects that additional residences will request participation in this program. However, timing of the implementation of this mitigation measure is dependant upon the County receiving sufficient federal funds, under the federal AIP program or otherwise, to pay the full expense of this program. The County will make the necessary applications for this federal funding if the proposed project (Alternative 1) or if "Alternative 2" is adopted. In the absence of federal funds, the County will implement this mitigation measure as funds and other necessary resources are available to the County. This would result in a slower implementation of the mitigation program than

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[44] Monitoring stations 21, 22 and 24 are currently temporary monitoring stations. As previously stated, the second project component would be to add these three monitoring stations as permanent monitoring stations. These three new monitoring stations (currently referred to as TMS 21, 22 and 24) may also be referred to as RMS 21, 22 and 24 in this document.

if federal funds are available, but this mitigation measure is not strictly contingent upon receiving federal grant funds to support the program.

Re-Initiation of the Purchase Assurance Program

As mitigation under EIR 508/EIS, the County initiated a purchase assurance program in the Santa Ana Heights area (with a one-year eligibility period). As mitigation for this project, the County will seek necessary federal funding support to reinitiate that program for a period of one year (beginning as soon as the appropriate federal funding commitments have been obtained). Those residences eligible for this program will include all residential properties located within the projected *Scenario A*[45] 65 dB CNEL contour for the selected project, if that project is either the proposed project (Alternative 1) or Alternative 2. The County will seek the necessary federal funding. If the County is unable to obtain necessary federal funding support to reinitiate the purchase assurance program, the adoption of this mitigation measure will not be feasible, and the project may result in unavoidable adverse noise and land use impacts (compared to current noise levels and conditions) in the Santa Ana Heights area.

MITIGATING PROJECT CONDITIONS AND OTHER ACTIONS

Certain mitigating measures or conditions are also being recommended as part of the final proposed project to be adopted by the Board of Supervisors in order to ensure that implementation of this project is, in fact, consistent with the federal action which underlies the proposed access plan amendments and to ensure that the County and the local community receive the benefits of the cooperative effort of all of the parties to this process. It is also necessary to include certain mitigating conditions on the proposed project in order to ensure that the County's actions under this project do not unexpectedly jeopardize the 1985 Settlement Agreement with the City of Newport Beach, SPON and AWG.

Memorandum of Legal Understanding With the Federal Aviation Administration

As part of the noise demonstration, the County and the FAA executed a "Memorandum of Legal Understanding" under which the FAA agreed that the County's participation in the demonstration would not jeopardize the "grandfathered" status of the County's regulations of JWA, including the PHASE 2 ACCESS PLAN, under the provisions of the Airport Noise and Capacity Act of 1990 ("ANCA") and FAR Part 161. Obviously, it was not possible at the beginning of the demonstration period to obtain a similar agreement from the FAA regarding any possible future amendments to the maximum permitted noise

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[45] The underlying assumptions for the various "scenario" analysis are discussed in Section 3.1 of this EIR.

levels required by the PHASE 2 ACCESS PLAN. However, as a condition to implementation of this project, it is being recommended that a similar agreement, satisfactory in form and content to the County Counsel, be made an express condition to the implementation of the proposed project.

The agreement between the FAA and the County will have to recite that the proposed project is not inconsistent with, or illegal as a result of, ANCA, the federal airport improvement program legislation, the County's contractual obligations to the United States and the FAA under the AIP grant agreements executed by the County, or any other provision of federal law of which the FAA is aware.

Implementation of Regulatory Action Under AC 91-53A

As noted earlier, the principal purpose for the proposed project is to accommodate changes in flight safety policy to be implemented by the FAA through AC 91-53A and related actions amending the operations specifications of the domestic commercial airlines. FAA has indicated that it expects to publish a final version of AC 91-53A in March or April 1993, and to propose an effective date later in 1993. Although it would be the preference of the County to implement this proposed project at the beginning of the next *Plan Year,*[46] which is April 1, 1993, FAA may experience some delay in this process. This project would not be proposed for implementation if the FAA changes its position and policy and fails to implement or enforce the provisions of AC 91-53A and related actions. Therefore, it is proposed that: (i) the maximum permitted noise level element of the proposed project be made effective July 1, 1993;[47] (ii) that the amendments expressly be made to expire on March 31, 1994, without further action of the Board of Supervisors; and (iii) that the adopting resolution of the Board recite that one purpose of this "sunset" provision is to ensure that FAA has, in fact, taken its' anticipated policy actions, and that the Board assumes that the changes proposed by this project would be made permanent on or before April 1, 1994, if the anticipated circumstances are realized and the mitigating conditions satisfied.

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[46] *Plan Year* is a defined term under Section 2.32 of the PHASE 2 ACCESS PLAN and means the period from April 1 of each year to March 31 of the following year during the term of the Plan.

[47] Because this EIR and the proposed project cannot be considered by the Board of Supervisors until late May or June 1993 (during the first quarter of the 1993-94 *Plan Year*), the County has discussed with the City, SPON and AWG the execution of a supplemental stipulation to the 1985 Settlement Stipulation which would allow continuation of the noise level demonstration procedures in place during Phase III of the noise level demonstration to continue for the first quarter of the 1993-94 *Plan Year.* Airport staff believes that those parties will agree to this approach.

Departure Ceiling Increase to 5000 Feet

FAA is currently taking action to make permanent airspace changes which would raise the departure ceiling on Runway 19R to 5000 feet (before the coastline) from the historical limit of 3000 feet. Final FAA action on this issue is important to this project because it offers substantial noise reduction benefits south of Santa Ana Heights and before the coastline, particularly with some aircraft such as the Boeing 757. Therefore, it is proposed that this FAA action also be made part of the "sunset" provision and recitals discussed in the preceding paragraph.

On March 5, 1993, after the draft EIR had been finalized for printing and production, the FAA issued a finding of no significant impact ("FONSI") on an environmental assessment ("EA") prepared by the FAA to address potential environmental effects of this airspace change, and the airspace change has been finalized and implemented by the FAA.

Extended Noise Demonstration Period and Limitation on Access Plan Amendments

Although substantial data was collected during the noise demonstration period from April 1, 1992 through December 1992 for incorporation into this environmental analysis, the participants to the demonstration process have not reached complete consensus on the maximum permitted noise level adjustments necessary to accommodate the proposed change in FAA policy, as reflected in AC 91-53A. This is particularly true with respect to the views of McDonnell-Douglas and a few of the MD-80 operators regarding the maximum permitted noise levels for Class A Aircraft at RMS 1 and 2. The definition of maximum permitted noise levels for Class A Aircraft is controlled by the MD-80 series aircraft. All other aircraft types operating at JWA as Class A Aircraft can operate well below the MD-80 noise levels.

While the County is reasonably comfortable with its analysis of the noise levels necessary to accommodate the pre-demonstration operations of MD-80 aircraft at JWA, the noise level data developed during the demonstration is capable of different interpretations because of the numerous variables that can affect aircraft performance and noise levels. Since modification of the maximum permitted noise levels is a significant political controversy, it has again been proposed that the County implement the Access Plan amendments proposed by this project for the 1993-94 Plan Year only, with an automatic "sunset" provision (and related findings in the Board resolution) which would return the Access Plan limits to the pre-project (or "no-project") condition unless the Board of Supervisors takes affirmative action to extend the amendments.

The purpose of addressing this concern through use of the proposed "sunset" provision is threefold: First, for reasons discussed throughout Section 3.1 of this EIR, the County wishes to minimize the increases in permitted noise levels in all classes, but

particularly in the noisiest class of aircraft - Class A airplanes - and particularly the MD-80, which controls the definition of Class A noise limits.

Second, as discussed in Section 3.1.5 of this EIR, this would allow further adjustments to the maximum permitted noise levels if subsequent experience demonstrates that the noise level demonstration data did not adequately predict the noise levels necessary to accommodate pre-demonstration operations and missions by the aircraft types then using JWA. This is particularly important with respect to Class A operations as defined by the MD-80 series aircraft.

Finally, this will allow the County and the community the opportunity to ensure that the new federal policy on noise abatement departure procedures is in fact implemented as anticipated by this EIR. If not, then further review of these issues prior to the 1994-95 *Plan Year* will allow appropriate adjustments to be made to the proposed project.

Continuation of the Noise Level Demonstration

In order to ensure appropriate monitoring and analysis of the noise level data developed during the first year of operations at JWA under the modified access plan maximum permitted noise levels, the County proposes to continue certain aspects of the noise level demonstration through the 1993-94 Plan Year. These include continuing to obtain gross takeoff weight data by flight from each carrier; continuing past activities of the consultant which assisted the County during the noise level demonstration to ensure consistency and continuity; and periodic reviews of the noise level (and related) information with the aircraft manufacturers, the airlines, and the community, as appropriate.

However, the County will seek appropriate stipulations from the City of Newport Beach, SPON and AWG to continue the current departure procedures during the circulation and hearing processes for this EIR. Beginning with the July 1 quarter, the access plan noise limits will be fully enforced by the County during the 1993-94 *Plan Year*, unlike the period during the noise level demonstration when enforcement was suspended by agreement with the City of Newport Beach, SPON and AWG in order to allow the full testing of a wide range of alternative noise abatement departure procedures.[48]

Study of Possible Northerly Extension of Runway 19R/01L

In the past, various elements of the community have suggested that an extension of the air carrier runway at JWA (Runway 19R/01L) to the north (*i.e.,* towards the I-405 freeway) might be a noise mitigating element of proposed airport projects. This

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[48] *See* footnote 47, above.

measure was most recently considered in EIR 508/EIS, but was rejected as mitigation for the 1985 Master Plan project because it would provide relatively small noise reduction benefits but would be expensive to implement. In addition, various geographical, infrastructure, funding and other factors may limit the feasibility of this possible mitigation measure.

However, because of the controversial nature of the proposed project, the County believes that re-examination of this possible mitigation measure is warranted. In order to expedite the necessary engineering feasibility analysis, the County has already selected a qualified consultant to perform a feasibility study of such a runway extension. An analysis of the possible noise reduction benefits of a northerly extension of Runway 19R/O1L is presented in Section 3.1 of this EIR.

Prior to actual implementation of a runway extension mitigation measure, three things would need to be considered: (i) whether a determination can be made that the extension is feasible in light of engineering and other constraints; (ii) whether there are sufficient noise reduction or control benefits to warrant implementation of a runway extension; and (iii) whether there are adequate federal funds to implement the project. Therefore, the County is not proposing this measure as direct or immediate mitigation, but has made a commitment to complete the feasibility study so that a complete analysis of the benefits and possible impacts of this possible mitigation measure can be reviewed and discussed by the interested and affected parties.

2.5 Statement of Project Approvals

The following matrix, Table 2-1, indicates agencies that have discretionary approval authority over the proposed project, or elements of the project. Also shown are agencies expected to use the EIR in their decision-making on the proposed project, its alternatives, and related actions and approvals for which the EIR will be used as required by CEQA Guidelines §15124(d). In this case, the Board of Supervisors is the primary decision-making agency, although the Planning Commission has important EIR certification obligations under County practices and procedures. The actions of the Airport Commission and actions of the Planning Commission on non-land use matters are advisory to the Board of Supervisors.

2.6 Conformance With Relevant Plans, Goals and Policies[49]

This section identifies and describes state, regional and local plans and policies

[49] The documents which are described in this section are incorporated into this EIR by reference. These documents are available for public review during normal business hours, Monday through Friday, at the Orange County Environmental Management Agency, Development Processing Center, 12 Civic Center Plaza, Room G-19, Santa Ana, California 92702-4048.

that provide a framework for consideration of the proposed project and its alternatives. Discussion of the project's consistency with these plans and policies is also included in Section 3.2 of this EIR.

TABLE 2-1

MATRIX OF PROJECT APPROVALS

ACTION	Board of Supervisors	Planning Commission	Airport Commission
EIR Certification	X(a)	X(a)	
Phase 2 Access Plan Amendments	X(a)		X(b)
Addition of TMS 21, 22 and 24 as Permanent Monitoring Stations	X(a)		X(b)

Notes:

(a) Agencies expected to use the EIR in their decision-making (Guidelines §15124(d)).

(b) Advisory actions for which the EIR will be used (CEQA Guidelines §15124(d)).

2.6.1. UPPER NEWPORT BAY ECOLOGICAL RESERVE

Section 630 of Title 14 of the California Code of Regulations specifies areas declared by the California Fish and Game Commission as ecological reserves. These ecological reserves are established to provide protection for rare or endangered plants and wildlife, and for specialized terrestrial and aquatic habitat types. The upper Newport Bay area has been designated as an ecological reserve for the purpose of preserving and enhancing its salt marsh ecosystem and life forms dependent upon this habitat type.

Certain persons and organizations commenting on the Notice of Preparation circulated for this project voiced concern over the potential noise impacts on the ecological reserve. These issues have been addressed in Section 3.3 of this document. This analysis concludes that the proposed project would not have a significant impact on the biological resources in the Upper Newport Bay ecological reserve.

2.6.2 Species Conservation And Protection

The Federal Endangered Species Act of 1973, the California Species Preservation Act of 1970 and the California Native Plant Protection Act of 1982 set forth regulations and policies encouraging federal and state agencies to protect and restore species of plant and wildlife threatened with extinction. The U.S. Fish and Wildlife Service and the California Department of Fish and Game are authorized by this legislation to establish criteria for determining such species, to inventory and compile lists of these species, and to maintain current information on their status. Actions which may adversely effect listed species are subject to review by the listing agency, which may issue recommendations for preserving the welfare of the affected species. Plant and animal species in the project area have been inventoried. Although rare, threatened and endangered species exist in the upper Newport Bay area, none of these species will be affected by the proposed project.

In 1991, the legislature enacted the Natural Community Conservation Planning Act ("the NCCP Act"). Fish and Game Code §§2800 *et seq.* The purpose of the NCCP Act is to provide for "regional protection and preparation of natural wildlife diversity while allowing compatible and appropriate development and growth." This purpose is achieved through the preparation and implementation of natural community conservation plans ("NCCPs"), which are intended to establish land use and management programs for the long-term protection of designated habitat and their component species. The NCCP program is designed to provide an alternative to current "single species" conservation efforts by formulating regional, natural community-based habitat protection programs to protect species inhabiting each of the targeted natural communities. This shift in focus from single species to natural communities is anticipated to enhance the effectiveness of ongoing species protection efforts.

The coastal sage scrub ("CSS") NCCP program is the first effort undertaken pursuant to the NCCP Act. It is a pilot project to develop a process for accelerated conservation planning at a regional scale, and it is intended to serve as a model for other efforts elsewhere in California. The CSS and NCCP program is intended to protect coastal sage scrub habitat and reconcile conflicts between habitat protection and new development within Southern California. The study area established for the CSS and NCCP program includes existing coastal sage scrub habitat in portions of five counties in Southern California. The program contemplates an 18-month planning period from May 1, 1992 to November 1, 1993. Prior to, and during this planning period, landowners and local entities have enrolled in the NCCP program by entering into voluntary agreements with the California Department of Fish and Game. Enrollment protects enrolled coastal sage scrub habitat during the 18-month planning period, and initiates the collaborative planning process which is intended to result in long-term habitat protection through an NCCP. The California resources agency and the California Department of Fish and Game anticipate that approximately ten to twenty functional subregional planning areas will emerge from the CSS and NCCP program. The California resource agency issued "process guidelines" for the Southern California CSS NCCP on September 1, 1992.

As a major landowner in Southern California, the County of Orange has enrolled approximately 20,263 acres of park, open space and landfills in the program. In addition, the Upper Newport Bay Regional Park is enrolled in the NCCP program, including approximately 25 acres of coastal sage scrub habitat.

As specified in the NCCP agreement, the County of Orange will assess and make appropriate findings as part of the CEQA review process regarding whether a proposed project will have: (1) a significant unmitigated impact on coastal sage scrub habitat; and (2) the potential to preclude the ability to prepare an effective subregional NCCP plan. Additionally, the County will consult with the Department of Fish and Game and the U.S. Fish and Wildlife Service and strongly consider any recommended mitigation measures for a project which affects coastal sage scrub processed during the NCCP planning period.

2.6.3 ORANGE COUNTY GENERAL PLAN

The land use and noise elements of the Orange County General Plan provide a framework for consideration of this project. The land use element contains official county policies on the location and character of land uses necessary for the orderly growth and development of the county through the horizon year 2010. This element contains an inventory of existing land use conditions and related physical characteristics, objectives, a land use plan, an analysis of constraints and implementation policies. Land use categories are used to depict the general distribution, location and extent of public and private uses of land within the unincorporated territory of Orange County. These categories are residential, commercial, employment, public facilities and open space. *See* Section 3.2 for a discussion of land use issues.

The Noise Element (last revised February, 1993) has the goal to "[p]rotect the health, safety, and general welfare of County residents by reducing noise levels and establishing compatible land uses in noise impacted areas." The County has found that aircraft noise evokes the single most aggravated community response to noise, even though highways constitute the most pervasive noise source. Because of this, several of the element's policy statements relate to John Wayne Airport. These are included in Chapter 4 of the Noise Element of the Orange County General Plan. *See* Section 3.1 for a discussion of noise impacts associated with the project.

The County's program for land use compatibility is focused on preventing airport noise on all new residential lots and dwellings from exceeding an exterior standard of 65 dB CNEL and an interior standard of 45 dB CNEL. Basically, the element prohibits all new sensitive uses (residential, schools, and libraries) within the 65 dB CNEL contour. In addition, the area within the 60 dB CNEL contour is identified as a Noise Referral Zone and is subject to evaluation and review. Non-residential uses are allowed only if the interior noise level does not exceed 45 to 65 dB Leq(h) (depending upon the nature of the use) and

if appropriate mitigation measures are undertaken to meet state and local standards. Existing residential property owners are encouraged to insulate all living quarters to the standards set forth in the Noise Element, although any such remedial action is strictly voluntary and is not presently required by direct County regulation.[50]

The proposed project, as mitigated, is consistent with the Orange County General Plan.

2.6.4 City Of Newport Beach General Plan

The Land Use, Noise, and Recreation and Open Space elements of the Newport Beach General Plan provide a relevant context in which to evaluate the impacts of the proposed project.

The Land Use Element was adopted in May 1973. The element serves as a long range guide to the development and use of all lands within the Newport Beach Planning area. This area includes land within the City's jurisdiction, as well as all land east of Irvine Avenue in Santa Ana Heights. The element contains a land use plan illustrating the proposed use and development of lands in four major categories: residential, commercial, industrial, public and semi-public, and institutional. The element also contains land use proposals for specific sub-areas in the city. The land use section of this EIR, section 3.2, analyzes potential land use impacts.

The City's noise control programs are contained in the Noise Element. The state Noise Standards have been used for defining noise impact boundaries within the city and the criterion CNEL exposure is also the same as the state Noise Standard. New residential construction is not permitted within the 65 dB CNEL contour.

The Recreation and Open Space Element identifies and evaluates existing resources and proposes the development of additional facilities. Resources are categorized into activity parks, view parks, flora and fauna reserves, scenic areas, public beaches, golf courses, greenbelts, bay, ocean, trails and scenic highways and drives. The Santa Ana Heights area east of Irvine Avenue is included within the sphere of influence of the plan element.

2.6.5 City Of Irvine General Plan

The City of Irvine General Plan was adopted in 1973. Various elements have been added and updated since then. The Land Use and Noise Elements are relevant to the

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[50] *See* Section 3.2 for a discussion of land use compatibility issues.

JWA project. The Land Use Element is a long range guide to the development and use of all lands within the Irvine Planning Area, which includes the incorporated City of Irvine and the unincorporated county territory within the Local Agency Formation Commission (LAFCO) sphere of influence line for the City. The goal of the Land Use Element is to establish relationships between land uses that meet basic human needs, are efficient and harmonious, and balance costs and revenues over time. When the general plan was first adopted in 1973, the land use element contained three land use plan alternatives. In 1977 a final land use plan was adopted to guide the physical development of the City.

The City of Irvine adopted its Noise Element in 1983. JWA is identified as an existing significant noise source. The City's goal is to "contribute to a healthy and safe environment by minimizing noise impacts." To achieve this, Irvine has adopted an action program, part of which relates to JWA. Applicable implementing actions and standards are included in Chapter 4. The goal of the Noise Element is to "prevent significant increases in noise levels in the community and minimize the adverse effects of currently existing noise sources." It focuses on surface transportation noise sources. However, the element states the "[a]ll residential uses should be protected with sound insulation over and above that provided by normal building construction when constructed in areas exposed to greater than 60 dB CNEL." This standard would apply to a small area that lies within the JWA 60 dB CNEL noise contour.

2.6.6 City Of Tustin General Plan

Tustin's Land Use and Noise Elements provide a framework for consideration of project impacts. The Tustin General Plan was adopted in 1966. Various elements have been added and updated since then. The General Plan Land Use Element consists of a land use map; land use assumptions, goals and objectives, and population projections. The major goal of the element is to promote an economically balanced community with complementary land uses. The land use categories contained on the plan are residential, commercial, professional office, industrial, public and institutional, planned community, and a military category for the Marine Corps Air Station.

The City of Tustin is currently updating its General Plan Noise Element and expects to adopt the revised element in mid-1993.

2.6.7 City Of Costa Mesa General Plan

The City of Costa Mesa adopted a revised General Plan in 1981. The General Plan was updated in March 1992. The General Plan consists of four elements: the Environmental Resources/Management Element; the Community Development/Management Element; the Land Use Element; and the Growth Management Element. The Land Use Element builds on the information and constraints identified in the environmental resources

and community development elements and provides additional information related to the immediate and long-term development of the community. The Land Use Element contains a land use inventory and a summary of development constraints and problems.

The Community Development/Management Element discusses the streets and highway system as well as public transit. The analysis of the roadway network identifies the City's major circulation problems and indicates that these are compounded by heavy traffic volumes created partly by through-traffic. Bristol Street is one of three arterials identified as an especially high traffic carrier. Transportation policies are aimed at determining appropriate solutions to the identified problems. ~~One policy encourages "retention of current capacity limitations on JWA" and the "development of facilities to properly serve existing levels of traffic."~~ ***[See the response to Comment No. 30 to the draft EIR (Appendix G)].***

This element also inventories open space in three separate categories: permanent, interim and institutional. Permanent open space includes public parkland, golf courses, and school facilities; interim open space is made up of privately owned vacant and agricultural land that may be developed in the future; and institutional open space includes public and semi-public land uses such as fairgrounds, colleges, cemeteries, country clubs and regional park sites. This element was used to identify open space resources that would be affected by the project.

The Environmental Resources/Management Element states that noise environment is dominated by vehicular traffic and aircraft noise. One of the City's noise element objectives is to "evaluate methods of control of noise levels of operations and activities occurring within the City for the protection of residential areas from excessive and unhealthful noise . . ." The City's policies relating specifically to the airport are included in ~~Chapter 4~~ ***Section 3.2. [See the response to Comment No. 31 to the draft EIR, (Appendix G)].*** Since the eastern portion of Costa Mesa lies within the 65 dB CNEL contour, the existing and projected noise environments are considered in the land use impact analysis.

2.6.8 City Of Santa Ana General Plan

The City of Santa Ana General Plan was updated and adopted in September 1982. The general plan consists of a Framework Plan and a Policy Plan. The Framework Plan explains the overall planning strategy and implementation process of the general plan, while the Policy Plan contains the typical elements of the General Plan. The Land Use and Noise provisions of the Santa Ana General Plan are relevant to the JWA project.

The Land Use provision designates the general types, distribution, location, and intensity of land uses and contains goals, objectives, and implementation policies and programs. The goal of the Land Use provision is to balance land uses to meet basic needs and promote workable cost-revenue relationships while promoting energy efficiency.

The Noise provision has identified JWA as an actual or potential noise producer. The area of concern is the major air approach which covers the City from Irvine Avenue at Prospect Avenue to Warner Avenue at the Newport Freeway. Currently, the City of Santa Ana is outside of the 60 dB CNEL contour from JWA.

2.6.9 AIRPORT ENVIRONS LAND USE PLAN (AELUP)

The AELUP was originally adopted by the Airport Land Use Commission (ALUC) for Orange County on April 17, 1975. The First Revised Edition of the AELUP was adopted on June 30, 1983. Most recently, the AELUP was revised in November of 1990. The purpose of the plan is to "protect the public from the adverse effects of aircraft noise, to ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents, and to ensure that no structures or activities adversely affect navigable air space" (p 1). Development of the AELUP is required by Section 21675 of the California Public Utilities Code which directs the ALUC to develop a comprehensive land use plan for areas surrounding each public airport in Orange County. The ALUC may also prepare plans for areas surrounding any federal military airport.

Local agencies with areas of their jurisdiction that fall within the 60 dB CNEL 1985 project case contours of John Wayne Airport (as developed by CH2M Hill) are required to refer proposed general or specific plan amendments, or adoption or approval of zoning ordinances or building regulations to the ALUC prior to adoption. The ALUC notifies the local agency of the proposed plan's consistency with the AELUP. A two-thirds vote of the local agency governing body is required to approve a plan that the ALUC has found to be inconsistent with the AELUP. Such an override must be accompanied by specific findings pursuant to Section 21670 of the Public Utilities Code.

The Airport Land Use Commission must also determine whether a proposed amendment to an airport's Master Plan is consistent with the AELUP (see Public Utilities Code Section 21676(c)). This consistency determination -- which is made by reference to the noise contours described in the AELUP -- is also subject to override by a two-thirds vote of the governing body.

The AELUP is the primary mechanism for ensuring that the planning and development activities of local governments do not inadvertently conflict with the safe operation of John Wayne Airport. The AELUP specifies standards and criteria for aircraft noise, accident potential zones, building height restrictions, air transportation (including heliports/helistops), and establishment of planning areas for civilian and military airports. Land use guidelines and implementation requirements are also specified. Any changes made in SAH land use as part of the proposed Land Use Compatibility Program will require a determination of consistency with the AELUP.

2.6.10 Airport Land Use Compatibility Program (LUCP)

The LUCP was adopted by the County Board of Supervisors on February 26, 1985 in connection with the JWA Master Plan. Final EIR 508/EIS, certified concurrently with the adoption of both the LUCP and the Master Plan, addresses the environmental impacts as required by CEQA. The purpose of the LUCP is to ensure compatibility between projected noise levels on land uses south of JWA in conformance with Title 21 of the California Code of Regulations, Orange County General Plan and Airport Land Use Commission policies. In addition, the LUCP develops a long-range plan that addresses issues such as circulation, non-residential conversion and special uses (*i.e.,* equestrian, nurseries and dog kennels) in the Santa Ana Heights area.

As a result of the analysis provided in the LUCP, a land use compatibility plan was developed for the Santa Ana Heights area and approved by the Board of Supervisors. The plan identifies incompatible residential uses based upon the 65 CNEL for Final EIR 508/EIS project case for the year 2005. In order to implement the approved plan, a land use element amendment was adopted that reclassified certain residential areas to employment and commercial uses. Properties fronting on South Bristol were redesignated to commercial or employment, while properties along Birch and Acacia Streets were redesignated to employment (business park) uses.

2.6.11 Santa Ana Heights Specific Plan (SAHSP)

The SAHSP was adopted by the Board of Supervisors on October 15, 1986, as a regulatory document that defines zoning and associated land use regulation in the specific plan area within the County's jurisdiction. The SAHSP is consistent with the more general, County Board of Supervisors adopted LUCP, discussed above.

Objectives of the SAHSP include: (1) to encourage an upgrade of all residential neighborhoods; (2) to ensure that business park and residential uses and their impacts are adequately buffered from each other; (3) to enhance equestrian opportunities and the overall aesthetic character of the community; and (4) to ensure adequate provision of public facilities as development occurs.

2.6.12 Federal Airport Statutes and Regulations

The County's regulations of JWA, including the Phase 2 Access Plan, are "grandfathered" under the provisions of the Airport Noise and Capacity Act of 1990 ("ANCA"), which is codified in Title 49 of the United States Code Annotated, beginning at Section 2153 (*See, e.g.,* 49 USCA Section 2153(a)(2)(B) and (C)). Nothing in this project constitutes an "amendment" which would further reduce airport capacity at JWA, or which would compromise aircraft safety. The project does not, therefore, require compliance with

FAR Part 161 (*See,* 49 USCA Section 2153 (a)(2)(C)(iv)). In fact, the principal project objectives are to preserve existing capacity and to enhance aircraft safety. A proposed mitigating condition of project approval is the receipt by the County of a written concurrance by the Chief Counsel of the FAA with this interpretation of ANCA.

In addition, there is nothing in this project which is inconsistent with the covenants and assurances given by the County to the United States in certain grant agreements entered into under the federal Airport Improvement Program. Again, written concurrance with this interpretation by the FAA's Chief Counsel is proposed as a condition of project approval.

Finally, the County is not aware of any other federal aviation statutes or regulations which would be inconsistent in any respect with the proposed project.

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CHAPTER 3

Environmental Impact Analysis

This chapter describes the existing and baseline environmental conditions within the potentially affected area. The potential environmental impacts of the proposed project and mitigation measures are also described.

3.1 NOISE

3.1.1 EXISTING CONDITIONS AND NOISE DESCRIPTOR DISCUSSION

Existing aircraft noise exposure in the environs of JWA has been quantified using an established permanent noise monitoring system which measures Community Noise Equivalent Levels ("CNEL") and sound exposure levels ("SENEL") at six different locations south of JWA, and by using the US Air Force NOISEMAP model.[51] In addition to the six permanent RMS's, eight temporary noise monitoring stations ("TMS") were installed in January of 1992 in order to determine comparative SENEL of flight operations conducted at JWA.[52] The temporary stations are on residential properties located along the departure flight path from the upper Newport Bay to Balboa Island. The permanent and temporary monitoring stations are also shown on Exhibit 3-1 (and on Exhibit 2 of Appendix D). A detailed discussion of the noise modelling process, the measurement system equipment and operation is presented in the Noise Technical Appendix (Appendix D).

The SENEL noise descriptor (which is also referred to as SEL - most commonly when used with the Ldn descriptor) describes the total acoustical energy of an individual aircraft noise event compressed into a reference duration of one second. The SENEL noise level is typically 5 to 10 dB higher than the maximum noise level ("L_{max}") for the same aircraft noise event (typically measured in dBA). SENEL is the acoustical building block used to calculate cumulative noise exposure for an annual average day using the CNEL or L_{dn}. Examples of noise environments in terms of SENEL are presented in Exhibit 3-2. The area within 30 dB of the maximum noise level on Exhibit 3-2 is the area from which the SENEL is computed. "SENEL" is the terminology for this descriptor used in the State of California, while "SEL" is the equivalent terminology used for this descriptor by the

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[51] NOISEMAP is a large computer program developed by the Air Force to plot noise contours for airports. The program is provided with standard aircraft noise and performance data for different aircraft types that can be tailored to the characteristics of the airport in question. It has been used consistently at JWA for CNEL contour analysis, and it is used here to ensure consistency.

[52] Each TMS is identified with a two digit site number such as "21". The first of the two digits, the "2", means that the site is a "Temporary Monitoring Site (TMS)". The second digit, the "1", is the site number designation.

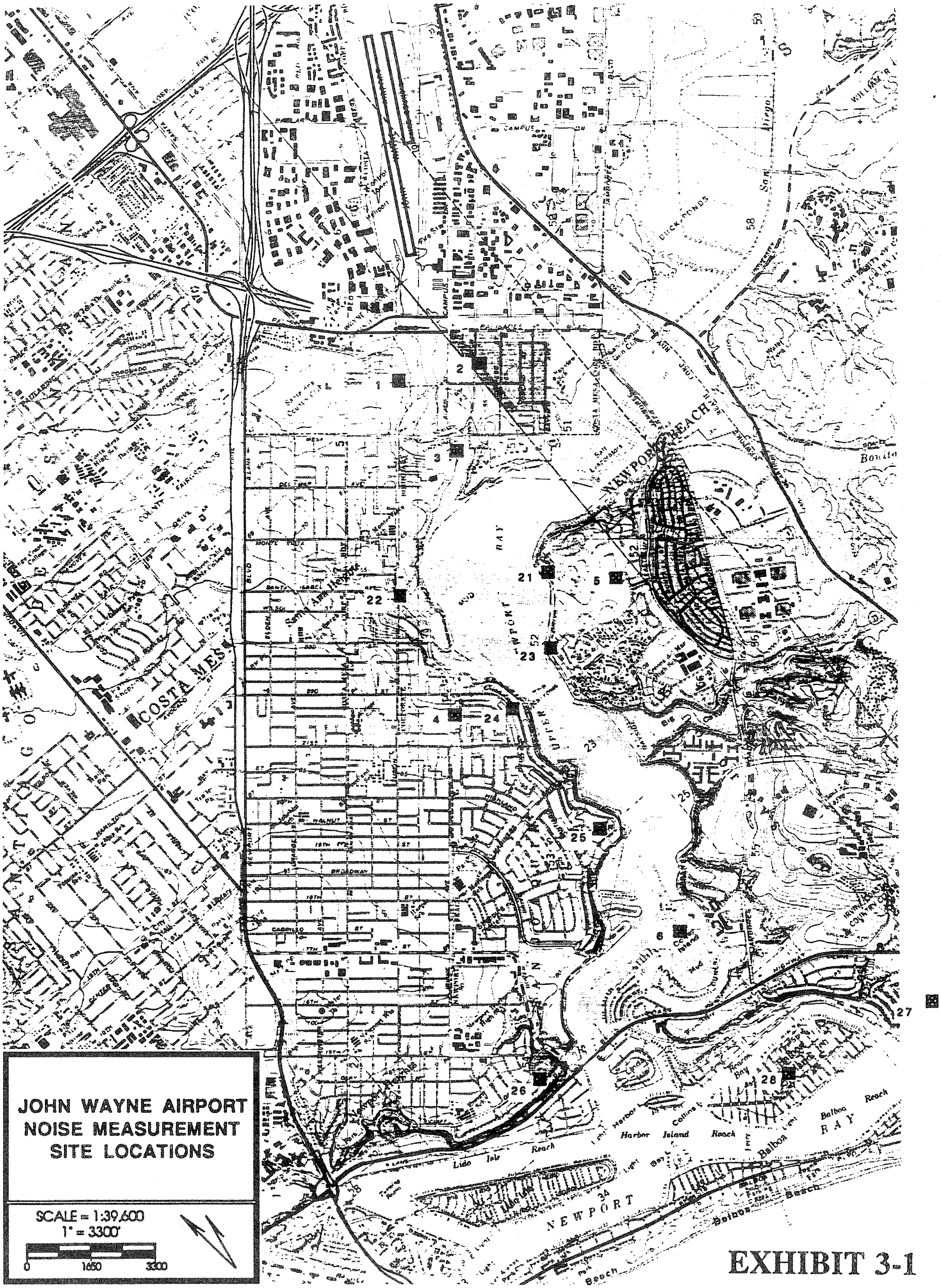
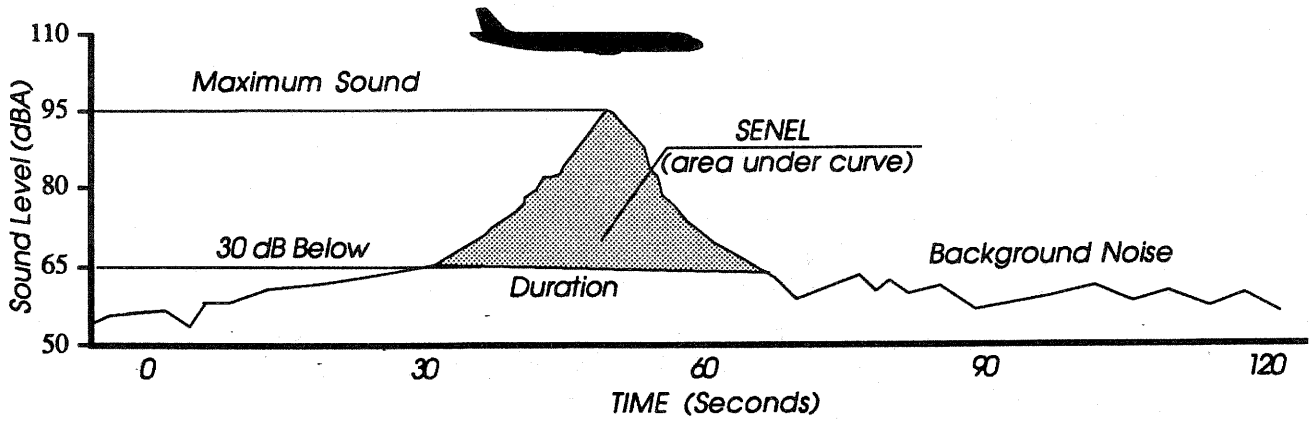
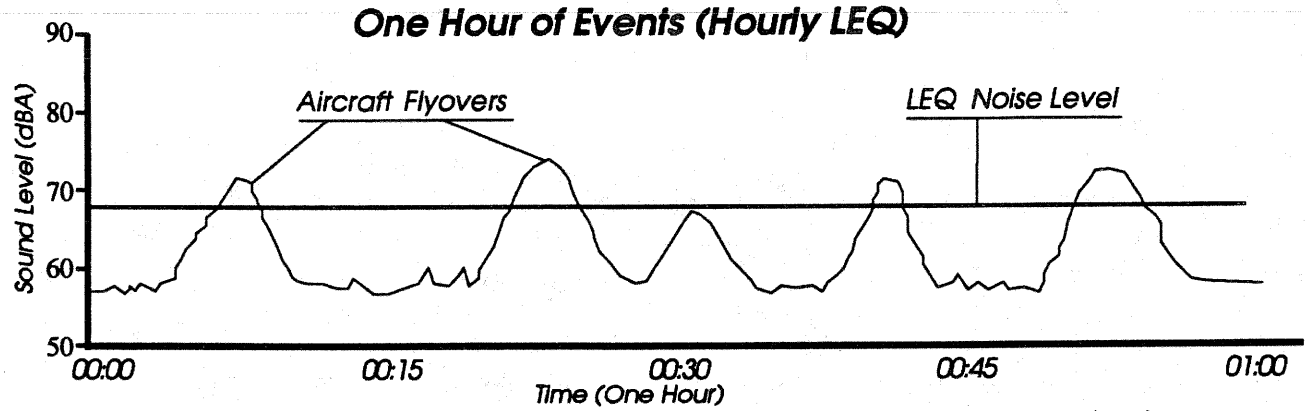

JOHN WAYNE AIRPORT
NOISE MEASUREMENT
SITE LOCATIONS
SCALE = 1:39,600
1" = 3300'
0
1650
3300
NEWPORT BEACH
COSTA MESA
NEWPORT
1
2
3
4
5
6
21
22
23
24
25
26
27
28

EXHIBIT 3-1

Single Event Noise Exposure Level (SENEL)

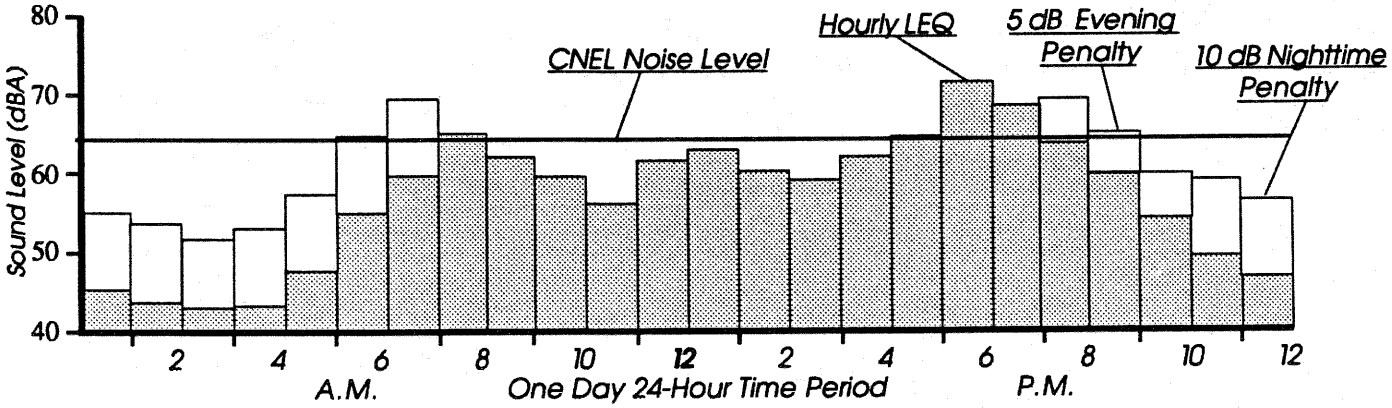


One Hour of Events (Hourly LEQ)



(Time Axis not drawn to scale, Aircraft Events are much shorter than shown here)

Community Noise Equivalent Level (CNEL)



EXAMPLES OF SENEL/LEQ/CNEL

EXHIBIT 3-2

federal government, the other 49 states, and internationally. Acoustical terms are more fully defined in Appendix D.

L_{eq} is the sound level corresponding to a steady-state A-weighted sound level containing the same total energy as a time-varying signal over a given sample period. L_{eq} is the "energy" average noise level during the time period of the sample. The L_{eq} noise measurement is based on the assumption that the amount of noise impact is dependent on the total acoustical energy content of the noise. It is the energy sum of all the sound that occurs during that time period. L_{eq} is graphically illustrated in the middle portion of Exhibit 3-2. L_{eq} can be measured for any time period. The 1 hour L_{eq} is also referred to as the Hourly Noise Level ("HNL"). A number of agencies have developed noise standards in terms of the Leq index measured in time periods of 1 hour or 24 hours.

The annual CNEL noise descriptor describes the A-weighted energy average cumulative noise exposure for each 24-hour period, including penalties of 5 decibels (dB) during the evening hours (7:00 p.m. - 10:00 p.m.) and 10 dB during the nighttime hours (10:00 p.m. - 7:00 a.m.). As a practical matter, this means that aircraft events occurring during the evening hours are treated as approximately three noise events for purposes of calculating CNEL values. Each aircraft noise event occurring during the nighttime hours is treated as if ten aircraft noise events had occurred. The CNEL descriptor is used by the State of California, the County of Orange and the City of Newport Beach to assess community noise levels and to evaluate land use compatibility around airports. Examples of noise environments in terms of CNEL are presented in Exhibit 3-2.

The CNEL descriptor is similar to the Day-Night Average Level ("L_{dn}" or "DNL") descriptor used by the FAA and other federal agencies for the evaluation of airport improvement projects and in the Part 150 noise compatibility planning process in states other than California. L_{dn} is a 24-hour time-weighted energy average noise level based upon the A-weighted dB, including penalties of 10 dB for operations occurring during the nighttime hours (10:00 p.m. - 7:00 a.m.). The L_{dn} descriptor does *not* include the 5 dB evening "penalty." The Federal Aviation Regulations recognize the CNEL descriptor in California to maintain consistency with state airport noise assessment criteria. CNEL and L_{dn} are generally considered to be equivalent descriptors of airport noise environment within 1.5 dB. Again, the only difference between the two descriptors is that CNEL includes the evening (7:00 p.m. - 10:00 p.m.) weighting penalty, while L_{dn} does not.

Both CNEL and L_{dn} account for the number of noise events per day, the time of day and the magnitude of the events. Because the hourly L_{eq} is the average of the sound exposure levels ("SEL") during an hour, CNEL and L_{dn} may be computed by energy adding the hourly L_{eq} values for the day with the same weighting factors specified above. The result is mathematically identical to energy summing the SEL values. The lower portion of Exhibit

3-2 illustrates how hourly L_{eq} values are summed and weighted to compute the daily CNEL level.[53]

Aircraft operations at JWA are characterized by aircraft type, departure and arrival procedures, day/evening/night time distribution, flight tracks, flight profiles, operational procedures, including aircraft thrust and weights, and noise abatement procedures. The nominal flight tracks for Runway 19R (and 19L) departures are shown on Exhibit 3-3 and Exhibit 10 of Appendix D. The flight tracks shown include multiple tracks using the normal Runway 19R Standard Instrument Departure ("SID") in order to simulate the normal flight track dispersion.

Aircraft operational data, including runway coordinates, airport altitude and temperature, are also used to generate CNEL noise contours using the NOISEMAP model. The JWA Noise Abatement Office publishes quarterly noise reports which report noise measurement statistics and which plot the 65 dB CNEL noise contour for the trailing twelve months preceding the last day of the reporting period. Once a year, as part of the fourth quarterly report, annual noise contours for the entire airport environs are published. These noise contours include the 60, 65 and 70 dB CNEL noise contours. The CNEL noise contours for existing conditions at JWA for the twelve month period ending December 31, 1991, (the latest available calendar year contours not affected by activities related to the noise level demonstration) are shown on Exhibit 3-4. The CNEL noise contours for existing conditions at JWA for the first quarter of 1992 are shown on Exhibit 3-5.[54] These contours were used as the baseline for a comparative analysis of the noise-related impacts of the project and its alternatives.

The project and its alternatives have also been compared to the 65 CNEL noise contours presented in EIR 508/EIS prepared in connection with the 1985 Master Plan for JWA for the Years 1990 and 2005. The Year 2005 65 dB CNEL noise contour is shown on Exhibit 3-6. This noise contour projected the noise associated with a fleet mix of 50 B-767 aircraft, 17 B-757 aircraft and 6 MD-80 aircraft per day. These contours formed the basis for the land use plans in Santa Ana Heights including the purchase assurance and acoustical insulation programs under the Board approved Land Use Compatibility Plan for Santa Ana Heights adopted as part of the 1985 Master Plan.

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[53] "Energy adding" and "energy summing" mean that the events are computed on a Log_{10} basis. This is commonly accepted practice in acoustics.

[54] These contours were computed using the operations data for the "trailing" twelve month period. In other words, the contours reflected in Exhibit 3-5 represent conditions and operations during the period from April 1, 1991 to March 31, 1992.

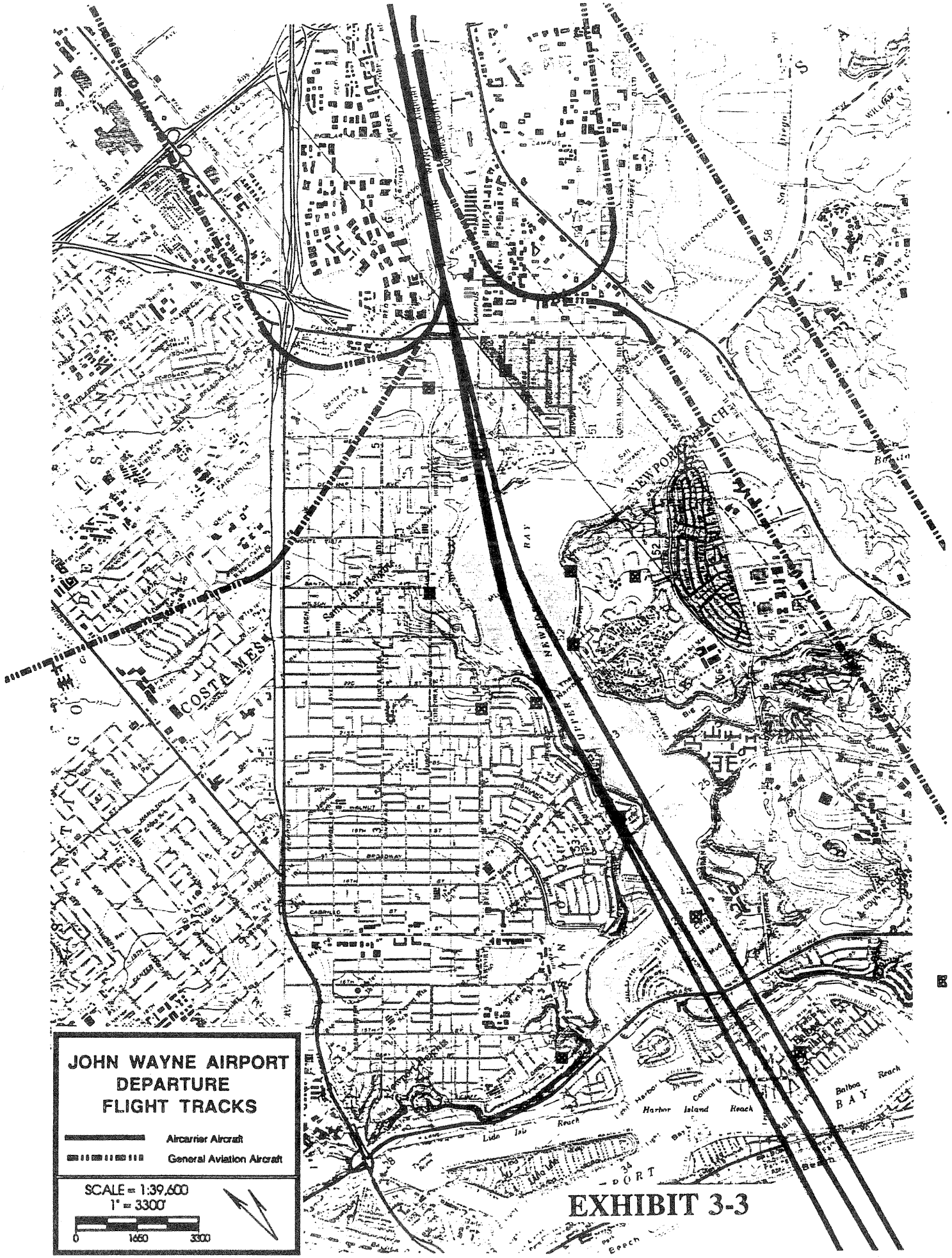
JOHN WAYNE AIRPORT
DEPARTURE
FLIGHT TRACKS
Aircarrier Aircraft
General Aviation Aircraft
SCALE = 1:39,600
1" = 3300'
0
1650
3300
COSTA MESA
NEWPORT BEACH
Santa Ana Heights
Lido Isle
Harbor Island
Balboa Bay

EXHIBIT 3-3

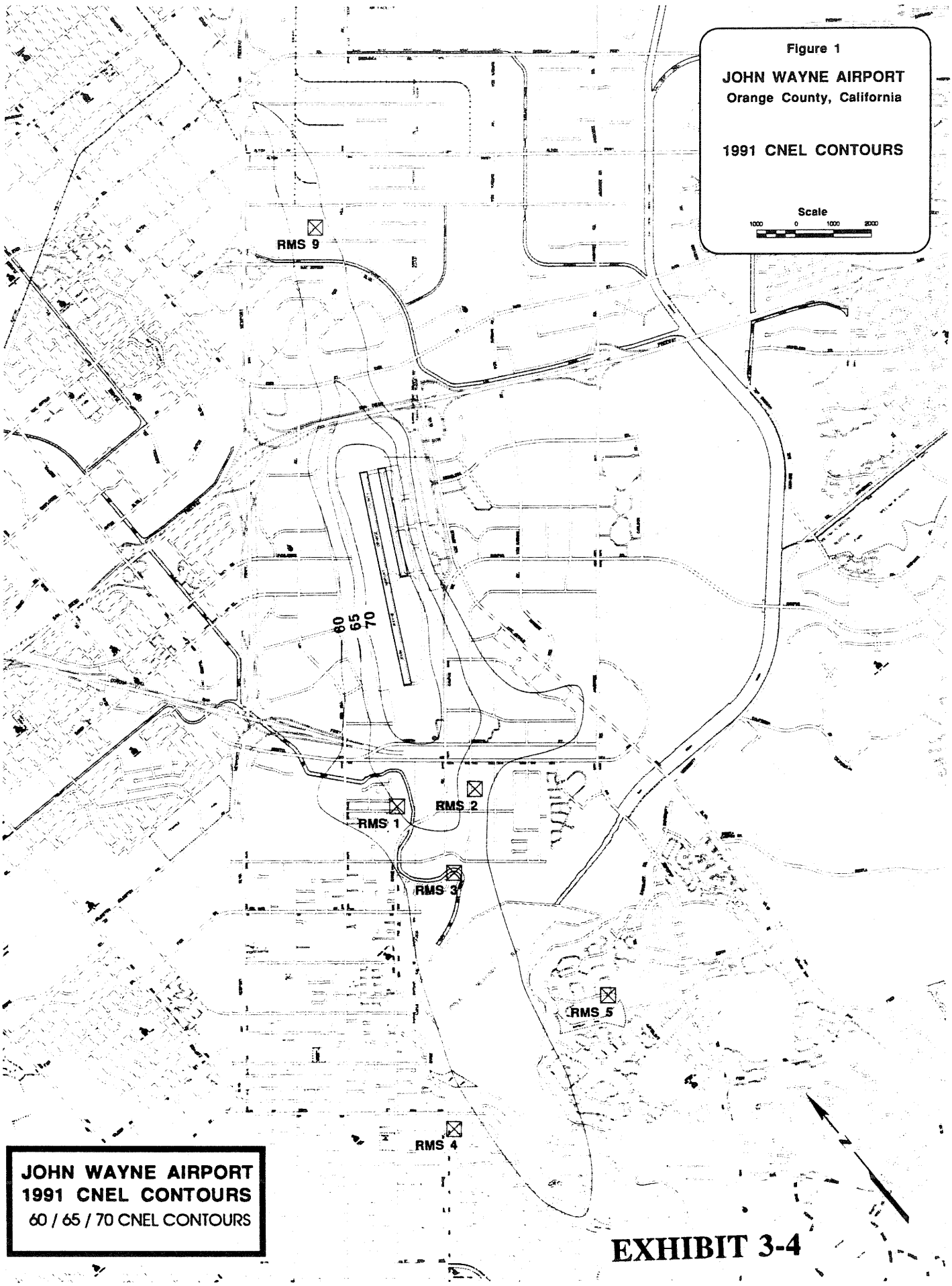
Figure 1
JOHN WAYNE AIRPORT
Orange County, California
1991 CNEL CONTOURS
Scale
1000 0 1000 2000
RMS 9
60
65
70
RMS 1
RMS 2
RMS 3
RMS 5
RMS 4
JOHN WAYNE AIRPORT
1991 CNEL CONTOURS
60 / 65 / 70 CNEL CONTOURS
EXHIBIT 3-4


JOHN WAYNE AIRPORT
FIRST QUARTER 1992
CNEL CONTOURS
60 / 65 / 70 CNEL CONTOURS
SCALE = 1:39,600
1" = 3300'
0
1650
3300
70 CNEL
65 CNEL
60 CNEL
COSTA MESA
NEWPORT BEACH
UPPER NEWPORT BAY
NEWPORT
BROADWAY
CABRILLO
Lido Isle
Harbor Island
BALBOA BAY

EXHIBIT 3-5

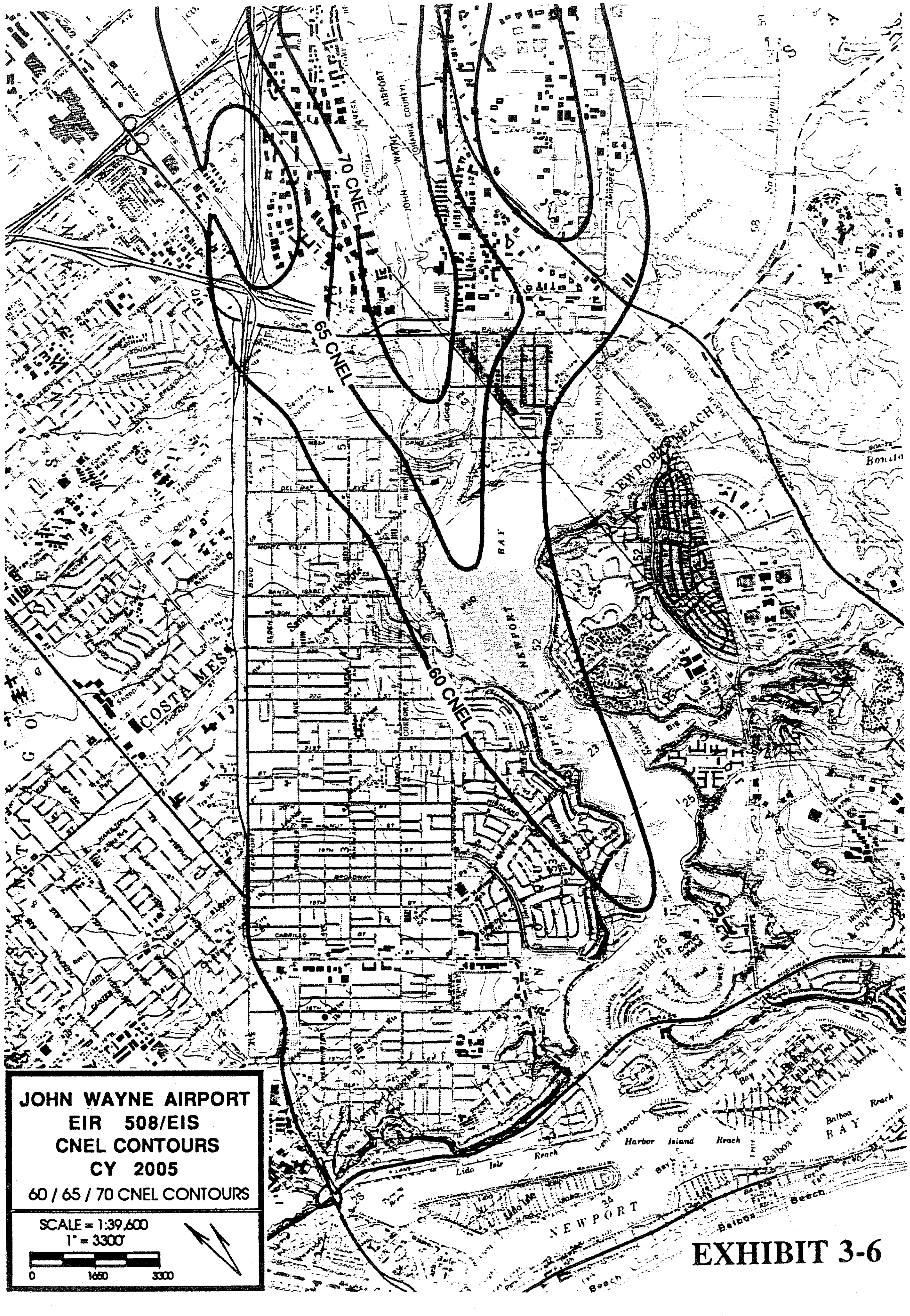
JOHN WAYNE AIRPORT
EIR 508/EIS
CNEL CONTOURS
CY 2005
60 / 65 / 70 CNEL CONTOURS
SCALE = 1:39,600
1" = 3300'
0
1650
3300
70 CNEL
65 CNEL
60 CNEL
COSTA MESA
NEWPORT BEACH
NEWPORT BAY
NEWPORT

EXHIBIT 3-6

3.1.2 Noise Level Demonstration Procedures

The assessment of project-related noise impacts was based on relative changes in noise levels which would occur as a result of the implementation of the project or any of its alternatives. The database for the project-related noise impacts and noise impacts related to project alternatives is provided by data collected during the noise level demonstration at JWA. The database from the noise level demonstration includes the following information:[55]

(i) the date and time of the flight;

(ii) the airline;

(iii) the type of aircraft;

(iv) the airline flight number;

(v) the type of departure procedure used;

(vi) the weight of the aircraft;

(vii) the takeoff flap settings of the aircraft;

(viii) the noise levels at each of the permanent and temporary noise monitoring stations;

(ix) the slant range distance to each microphone at the monitoring stations at the closest point of approach;

(x) weather data;

(xi) the aircraft altitude for the locations along the flight track;

(xii) the distance from the "reference flight track;" and

(xiii) the computed ground velocity and climb gradient along the flight track.

The noise level demonstration was designed to determine the effects that various departure flight profiles and procedures would have on the noise exposure to noise

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[55] A complete discussion of the procedures, protocols and results of the noise level demonstration is contained in Appendix D to this EIR.

sensitive residential areas south of JWA. Alternative flight procedures were selected for each aircraft. The number of procedures selected for each aircraft type depended on the number of carriers operating a given aircraft type at JWA. The procedures were selected through discussions with the airlines, airframe manufacturers, and the FAA. Proposed procedures were discussed with representatives of the community, including the Santa Ana Heights project area committee, the City of Newport Beach, SPON and AWG, prior to commencement of the demonstration.

During Phase I of the demonstration, which occurred from April 1, 1992 to June 30, 1992, only aircraft which were initiating power reductions at altitudes below 800 feet, or which were cutting back power below the power necessary to maintain the minimum engine-out climb gradient required by FAA regulations (1.2% in the case of a two engine aircraft) were required to change procedures. Table 3-1 lists the procedures used during Phase I of the noise level demonstration.

TABLE 3-1

JOHN WAYNE AIRPORT
NOISE ABATEMENT DEPARTURE DEMONSTRATION
PHASE 1 PROCEDURES

PROCEDURE NUMBER	AIRCRAFT TYPE	CUTBACK ALTITUDE	E/O CLIMB GRADIENT	CLEANUP ALTITUDE	PROCEDURE DESCRIPTION
3	B737	1500'	1.2%	3000'	Close-in
1	MD80	after clean-up	1.2%	800'	Distant
2	MD80	800'	1.2%	3000'	Close-in
3	MD80	after clean-up	1.2%	1500'	Distance

During Phase II of the demonstration, which occurred from July 1, 1992 to September 30, 1992, all scheduled commercial aircraft using JWA operated different departure procedures and profiles. Table 3-2 lists the procedures used during Phase II of the noise level demonstration beginning July 1, 1992.

During Phase III of the demonstration, which began on October 1, 1992 and will continue until March 31, 1993, the carriers agreed to fly only those departure procedures which could operate within the lower range of single event noise levels south of the airport. Table 3-3 lists the procedures used during Phase III of the noise level demonstration.

TABLE 3-2

JOHN WAYNE AIRPORT
NOISE ABATEMENT DEPARTURE DEMONSTRATION
PHASE 2 PROCEDURES

PROCEDURE NUMBER	AIRCRAFT TYPE	CUTBACK ALTITUDE	E/O CLIMB GRADIENT	CLEANUP ALTITUDE	PROCEDURE DESCRIPTION
1	A320	1000'	climb power	after cutback	Modified Close-in
2	A320	1500'	climb power	1500'	Modified Close-in
1	B737	800'	1.2%	3000'	Close-in
2	B737	1000'	1.2%	3000'	Close-in
3	B737	1500'	1.2%	3000'	Close-in
4	B737	1000'	max climb power	after cutback	Modified Close-in
5	B737	1000'	max climb power	3000'	Close-in
1	B757	800'	1.2%	3000'	Close-in
2	B757	1000'	1.2%	3000'	Close-in
3	B757	1500'	1.2%	3000'	Close-in
4	B757	1000'	1.2%	after cutback	Modified Close-in
5	B757	1000'	max climb power	3000'	Close-in
1	BAe-146	3000'	1.7%	clear coast	Distant 2
2	BAe-146	1000'	1.7%	1000'	Distant 1
1	MD80	after clean	1.2%	800'	Close-in
2	MD80	800'	1.2%	3000'	Close-in
3	MD80	after clean	1.2%	1500'	Close-in

TABLE 3-3

JOHN WAYNE AIRPORT
NOISE ABATEMENT DEPARTURE DEMONSTRATION
PHASE 3 PROCEDURES

PROCEDURE NUMBER	AIRCRAFT TYPE	CUTBACK ALTITUDE	E/O CLIMB GRADIENT	CLEANUP ALTITUDE	PROCEDURE DESCRIPTION
1	A320	1000'	climb power	after cutback	Modified Close-in
2	A320	1500'	climb power	after cutback	Modified Close-in
1	B737	800'	1.2%	3000'	Close-in
2	B737	1000'	DR2	3000'	Close-in
3	B737	1500'	1.2%	3000'	Close-in
4	B737	1000'	max climb power	after cutback	Close-in
1	B757	800'	1.2%	3000'	Close-in
3	B757	1500'	1.2%	3000'	Close-in
A	BAe-146	800'	1.7%	3000'	Close-in
2	MD80	800'	1.2%	3000'	Close-in
B	MD80	1200'	1.2%	3000'	Close-in

Tables 3-1, 3-2, and 3-3, also indicate the "engine-out climb gradient." This refers to the power setting for a given takeoff weight, ambient temperature, and wind conditions that would produce the specified climb gradient with one engine not operating. "Cleanup" refers generally to the retraction of flaps. The difference between a "close-in" and "distant" procedure is determined primarily by whether the power cutback occurs prior to or after the retraction of flaps ("cleanup").[56] Again, additional details regarding the noise level demonstration are provided in Appendix D of this EIR.

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[56] "Close-in" and "distant" is terminology used by FAA in proposed AC 91-53A. In the context of the geography of JWA, only "close-in" noise abatement departure procedures are suitable for use at JWA.

Based on the various methods for evaluating noise impacts, two candidate procedures were identified. Generally, a 1500 foot cutback used by all critical aircraft, including the Boeing 737-300+ and 757 series aircraft which are the critical aircraft for defining Class AA and Class E maximum permitted noise levels (as contemplated by the proposed project (Alternative 1), resulted in higher single event increases in Santa Ana Heights,but also resulted in lower probable noise levels south of Santa Ana Heights than under Alternative 2 (800 foot cutback by Class AA and Class E aircraft).

Although the proposed project (Alternative 1), which would accommodate a 1500 foot cutback by the Boeing aircraft, results in lower probable single event noise levels by those aircraft in the Newport Beach area south of Santa Ana Heights, both the proposed project (Alternative 1) and Alternative 2 contemplate setting Class A noise limits based upon the requirements of the MD-80 aircraft using an 800 foot cutback procedure. The expected single event noise levels for that aircraft, therefore, are the same under both Alternative 1 and Alternative 2.

The measurements and analysis performed as part of the noise level demonstration were then used to identify the necessary maximum permitted noise levels under each scenario at RMS 1, 2 and 3. Class A noise limits were also identified using this data for proposed RMS 21, 22 and 24, as well as RMS 6.

3.1.3 CRITERIA OF SIGNIFICANCE

Single Event Noise Levels

The "significance" of the proposed project (Alternative 1) for noise purposes is properly analyzed using two different noise descriptors: SENEL for assessing the single event noise impacts and CNEL for assessing the cumulative noise impacts.

In terms of single event noise levels, substantial research has been performed to determine the sensitivity of the typical human ear to various noise levels, and to the ability of the human ear to make comparisons between two noise events in terms of their relative "loudness." As a result of that research, there is a general consensus among professional acousticians that in comparing the relative loudness of two aircraft noise events, the single event levels of the two events must be at least 3.0 dB SENEL (or, for that matter, dBA) different for a normal person to reliably identify the noisier event. At lower noise level differences, a normal person would select among the two events on a random basis.[57]

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[57] Kryter, Karl D., The Effects of Noise on Man, Second Edition, Chapter 12, Guidelines for Assessment and Control of Noise. 1985.

Neither the State of California nor the federal government have established single event "thresholds of significance" by regulation or guideline for aircraft single event noise levels. Therefore, in the absence of regulatory guidance, this EIR will rely on the established scientific consensus and use 3.0 dB SENEL as the point at which a single event noise level increase is considered "significant" for purposes of this EIR analysis.[58]

Cumulative Noise Levels

The FAA applies two methods for evaluating the significance of noise impacts resulting from proposed airport projects. The first test measures the relative increase in area inside the 65 dB CNEL or L_{dn} contour. Under relevant FAA environmental orders, if the increase in land area inside the 65 dB CNEL or L_{dn} contour does not exceed 17 percent, the impact is considered insignificant and no further environmental analysis is required. A 17 percent increase in land area is considered by the FAA to be approximately equivalent to a 1 dB increase in cumulative noise exposure, as defined by the CNEL or L_{dn} descriptors.[59]

If the land area within the 65 dB CNEL or L_{dn} contour will increase by 17 percent or more as the result of an airport project, the FAA environmental orders suggest that a point-specific analysis be performed for areas where noise sensitive land uses are located. If this analysis shows that cumulative noise exposure (as defined by the CNEL or L_{dn} levels) will not increase by more than 1.5 dB CNEL (or L_{dn}), the noise impacts of the project are considered insignificant and no further environmental analysis is required.[60]

Exhibit 3-7 provides a noise and land use compatibility chart that was published in FAA Advisory Circular 150/5020-1 (dated August 5, 1983) as part of the FAR Part 150 Noise Control program. These guidelines represent recommendations to local authorities for determining acceptability and permissibility of land uses. The guidelines specify a maximum amount of noise exposure (in terms of L_{dn}) that will be considered acceptable or compatible to people in living and working areas. The FAA guidelines indicate that this land use compatibility chart is only advisory, and that the responsibility for

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[58] The other commonly used "rule of thumb" for aircraft single events is that the human ear typically perceives a 10 dB SENEL increase as a doubling of the noise level and, conversely, a 10 dB SENEL decrease as a reduction of the noise level by half. In terms of the laws of physics and the accepted definition of "decibels," a 3 dB SENEL increase is a doubling of the amount of noise *energy* which can be measured by state of the art acoustical equipment. The reason for this difference is that the human ear is a less precise and less accurate "microphone" than the equipment used in most airport noise monitoring systems.

[59] FAA Order 5050.4A at pages 28-30.

[60] FAA Order 5050.4, Directive 12.21.83.

Land Use	*Yearly Day-Night Average Sound Level (Ldn) in Decibels*					
	Below 65	*65-70*	*70-75*	*75-80*	*80-85*	*Over 85*
Residential						
Residential, other than mobile homes and transient lodgings	Y	N(1)	N(1)	N	N	N
Mobile Home Parks	Y	N	N	N	N	N
Transient lodgings	Y	N(1)	N(1)	N(1)	N	N
Public Use						
Schools	Y	N(1)	N(1)	N	N	N
Hospitals and Nursing Homes	Y	25	30	N	N	N
Churches, auditoriums, and concert halls	Y	25	30	N	N	N
Governmental Services	Y	Y	25	30	N	N
Transportation	Y	Y	Y(2)	Y(3)	Y(4)	Y(4)
Parking	Y	Y	Y(2)	Y(3)	Y(4)	N
Commercial Use						
Offices, business and professional	Y	Y	25	30	N	N
Wholesale and retail - building materials, hardware and farm equipment	Y	Y	Y(2)	Y(3)	Y(4)	N
Retail trade - general	Y	Y	25	30	N	N
Utilities	Y	Y	Y(2)	Y(3)	Y(4)	N
Communication	Y	Y	25	30	N	N
Manufacturing and Production						
Manufacturing, general	Y	Y	Y(2)	Y(3)	Y(4)	N
Photographic and optical	Y	Y	25	30	N	N
Agriculture (except livestock) and forestry	Y	Y(6)	Y(7)	Y(8)	Y(8)	Y(8)
Livestock farming and breeding	Y	Y(6)	Y(7)	N	N	N
Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y	Y
Recreational						
Outdoor sports arenas and spectator sports	Y	Y(5)	Y(5)	N	N	N
Outdoor music shells, amphitheaters	Y	N	N	N	N	N
Nature exhibits and zoos	Y	Y	N	N	N	N
Amusement parks, resorts and camps	Y	Y	Y	N	N	N
Golfcourses, riding stables and water recreation	Y	Y	25	30	N	N

Numbers in parentheses refer to notes.

* The designations contained in this table do not constitute a Federal determination that any use of land covered by the program is acceptable or unacceptable under Federal, State, or local law. The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities. FAA determinations under Part 150 are not intended to substitute federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise compatible land uses.

TABLE KEY

SLUCM	Standard Land Use Coding Manual.
Y (Yes)	Land Use and related structures compatible without restrictions.
N (No)	Land Use and related structures are not compatible and should be prohibited.
NLR	Noise Level Reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.
25,30, or 35	Land use and related structures generally compatible; measures to achieve NLR or 25, 30, or 35 dB must be incorporated into design and construction of the structure.

NOTES

(1) Where the community determines that residential or school uses must be allowed, measures to achieve outdoor to indoor Noise Level Reduction (NLR) of at least 25 dB and 30 dB should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide an NLR of 20 dB, thus, the reduction requirements are often stated as 5, 10, or 15 dB over standard construction and normally assume mechanical ventilation and closed windows year round. However, the use of NLR criteria will not eliminate outdoor noise problems.

(2) Measures to achieve NLR of 25 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.

(3) Measures to achieve NLR of 30 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.

(4) Measures to achieve NLR of 35 dB must be incorporated into the design and construction of portions of these buildings where the public is recieved, office areas, noise sensitive areas or where the normal noise level is low.

(5) Land use compatible provided special sound reinforcement systems are installed.

(6) Residential buildings require an NLR of 25.

(7) Residential buildings require an NLR of 30.

(8) Residential buildings not permited.

SOURCE: FAR Part 150

FAR PART 150 LAND USE COMPATIBILITY MATRIX

EXHIBIT 3-7

determining the acceptability and permissibility of land uses remains with the "local authorities."

The State of California has also promulgated airport noise standards (commonly known as "the California Noise Standards" or "the Noise Standards") in compliance with Section 21669 of the California Public Utilities Code. These regulations are contained in Title 14 of the California Code of Regulations at Section 5000 and following. Under these regulations, effective January 1, 1986, no "incompatible" (as defined in the regulations) land uses were to be located within areas subject to CNEL levels of 65 dB or greater. Land uses which are deemed compatible with airport operations under these regulations include agriculture, airport property, industrial property, commercial property, property subject to an avigation easement for noise, property zoned open space and acoustically insulated single and multi-family residential units. However, the State of California has not expressly adopted a cumulative noise level "threshold of significance" for airport projects.[61]

With respect to its normal land use regulatory authority, Orange County has established exterior and interior noise limits for residential land uses as follows: (i) the noise standard for exterior living areas (private yards, patios, and recreational areas) is 65 dB CNEL; (ii) the noise standard for interior living areas is 45 dB CNEL. The County has not independently established a noise level "threshold of significance" for noise increases caused by airport projects.

3.1.4 Analysis of Noise Impacts

For analysis of the potential noise impacts of the project, numerous alternatives were analyzed under various regulatory and operational scenarios. In order to obtain the maximum benefit from the noise analysis performed in this section of the EIR, the reader should understand that the proposed project (Alternative 1), and various project alternatives have been analyzed under three separate sets of operational assumptions (scenarios). In essence, the "alternatives" describe alternative regulatory action (or inaction) by the County, while the "scenarios" provide alternative aircraft operational and fleet mix assumptions in order to define the potential noise impacts of the project. The "scenarios" consider the "*Base Case Scenario*" (*i.e.,* pre-project) conditions, "*Scenario A,*" the "most likely case" with respect to probable fleet mix and operational assumptions, and "*Scenario "B,*" the potential noise impacts at the "boundary" of the analysis (the so-called "worst-case" analysis or scenario). Beginning first with the alternatives, and then summarizing the three operational scenarios, the alternatives considered in the noise analysis for the project are summarized as follows:

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[61] Because CEQA was modeled on NEPA, the California courts have generally looked to federal cases interpreting CEQA as "strongly persuasive" authority as to the meaning of CEQA. *See Friends of Mammoth v. Board of Supervisors* (1972) 8 Cal.3d 247, 261.

No Project:

The "no project" scenario, which is a statutorily required alternative under CEQA, assumes no changes in maximum permitted noise levels from the existing regulatory condition, and no installation of new monitoring stations or removal of RMS 4 and 5.

The Notice of Preparation Project

An analysis has been performed of a project as described in the Notice of Preparation, including the maximum noise levels described for each class of aircraft in the NOP. CNEL contours which would result from implementation of this project are reflected in Exhibits 3-8 ("*Base Case Scenario*" [current conditions, 6.0 MAP]), 3-9 ("*Scenario A*" [8.4 MAP service level with 13.3 MD-80 ADDs]) and 3-10 ("*Scenario B*" [8.4 MAP service level and 39 MD-80 ADDs]). The Notice of Preparation Case differs from the proposed project principally with respect to the fact that, as project mitigation, the proposed project (Alternative 1) proposes maximum permitted single event noise levels at RMS 1, 2 and 3 which, in certain cases, are lower than proposed in the Notice of Preparation. This analysis assumes the higher noise levels of the NOP and does not assume any of the mitigating adjustments proposed for inclusion in the final project.

The Proposed Project (Alternative 1)

This is the proposed project, as described in Section 2.3 of this EIR, including the project proposed mitigation identified in that section. The proposed project, which is also designated as "Alternative 1" in tables and exhibits included in this EIR, proposes to set maximum permitted noise levels at RMS 1, 2 and 3 at levels which would accommodate an 800 foot power cutback procedure by the MD-80 series aircraft, which control the definition of Class A ADDs, and a 1500 foot power cutback procedure by the Boeing 737-300+ and 757 series aircraft, which control the definition of Class AA and Class E aircraft at those three monitoring stations. The three basic CNEL analysis scenarios for the proposed project are reflected on Exhibits 3-11 ("*Base Case Scenario*"), 3-12 ("*Scenario A*") and 3-13 ("*Scenario B*").


70 CNEL
65 CNEL
60 CNEL
COSTA MESA
NEWPORT BEACH
NEWPORT BAY
Harbor Island
Balboa Beach
JOHN WAYNE AIRPORT
NOP PROJECT
CNEL CONTOURS
BASE CASE SCENARIO (M1 SENEL A:103)
A/C C/B ALT. A ADD'S AA ADD'S E ADD'S
B737 800' 8.3 12 10.3
B757 800' 11.3 16 -
MD80 800' 13.3 - -
60 / 65 / 70 CNEL CONTOURS
SCALE = 1:39,600
1" = 3300'
0 1650 3300

EXHIBIT 3-8

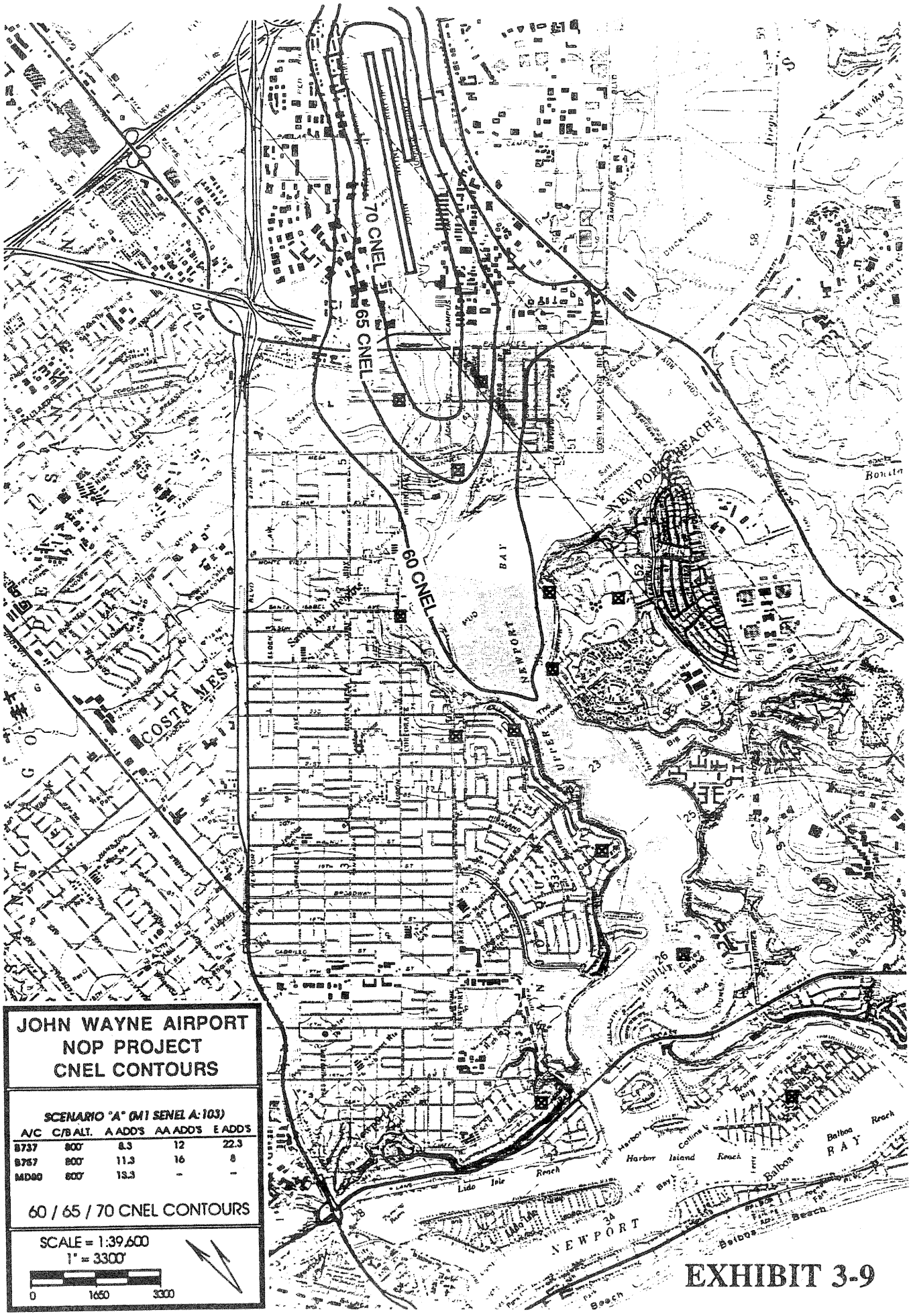

70 CNEL
65 CNEL
60 CNEL
COSTA MESA
NEWPORT BEACH
NEWPORT BAY
JOHN WAYNE AIRPORT
NOP PROJECT
CNEL CONTOURS
SCENARIO "A" (M1 SENEL A:103)
A/C C/B ALT. A ADD'S AA ADD'S E ADD'S
B737 800' 8.3 12 22.3
B757 800' 11.3 16 8
MD80 800' 18.3 - -
60 / 65 / 70 CNEL CONTOURS
SCALE = 1:39,600
1" = 3300'
0
1650
3300

EXHIBIT 3-9

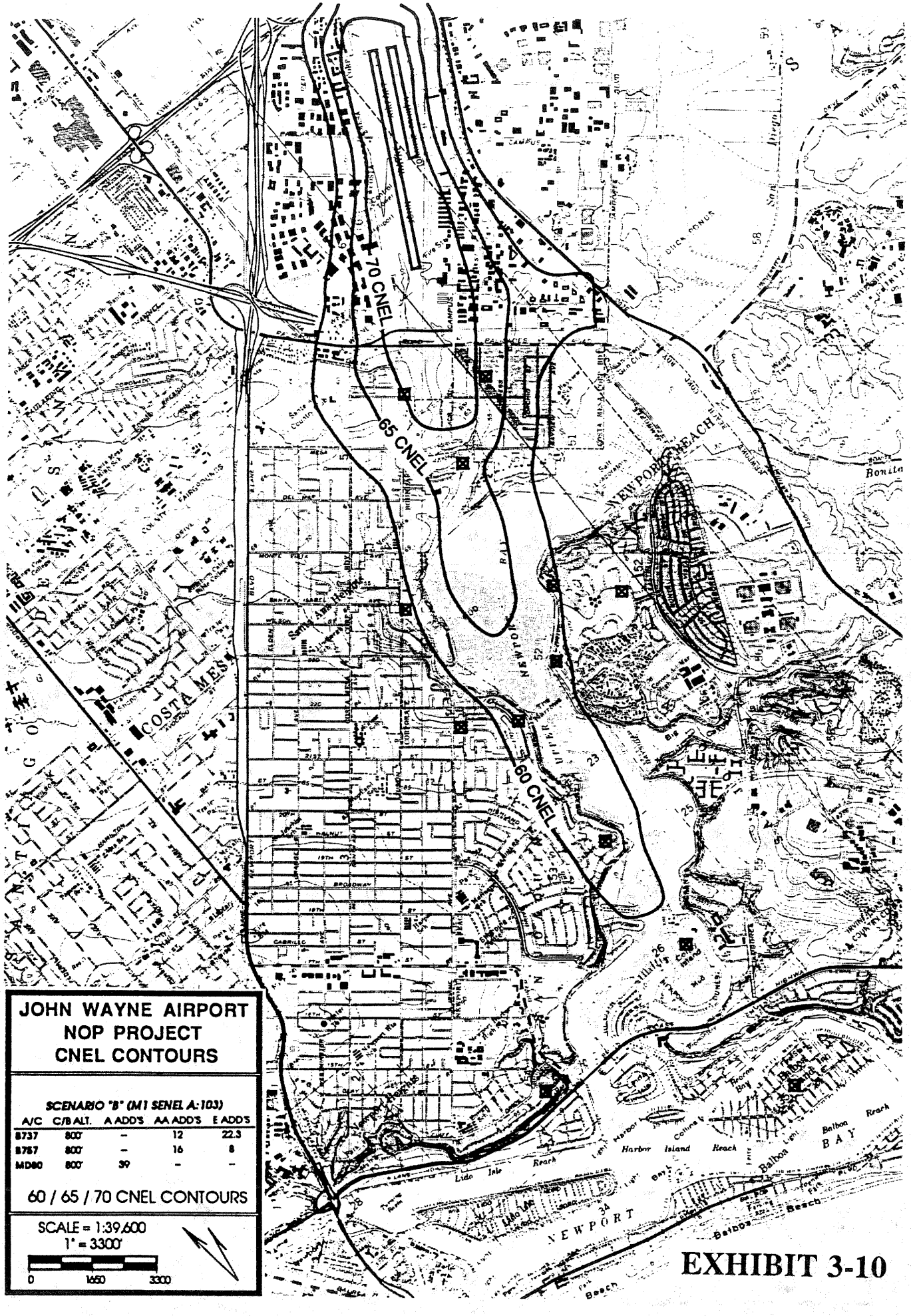
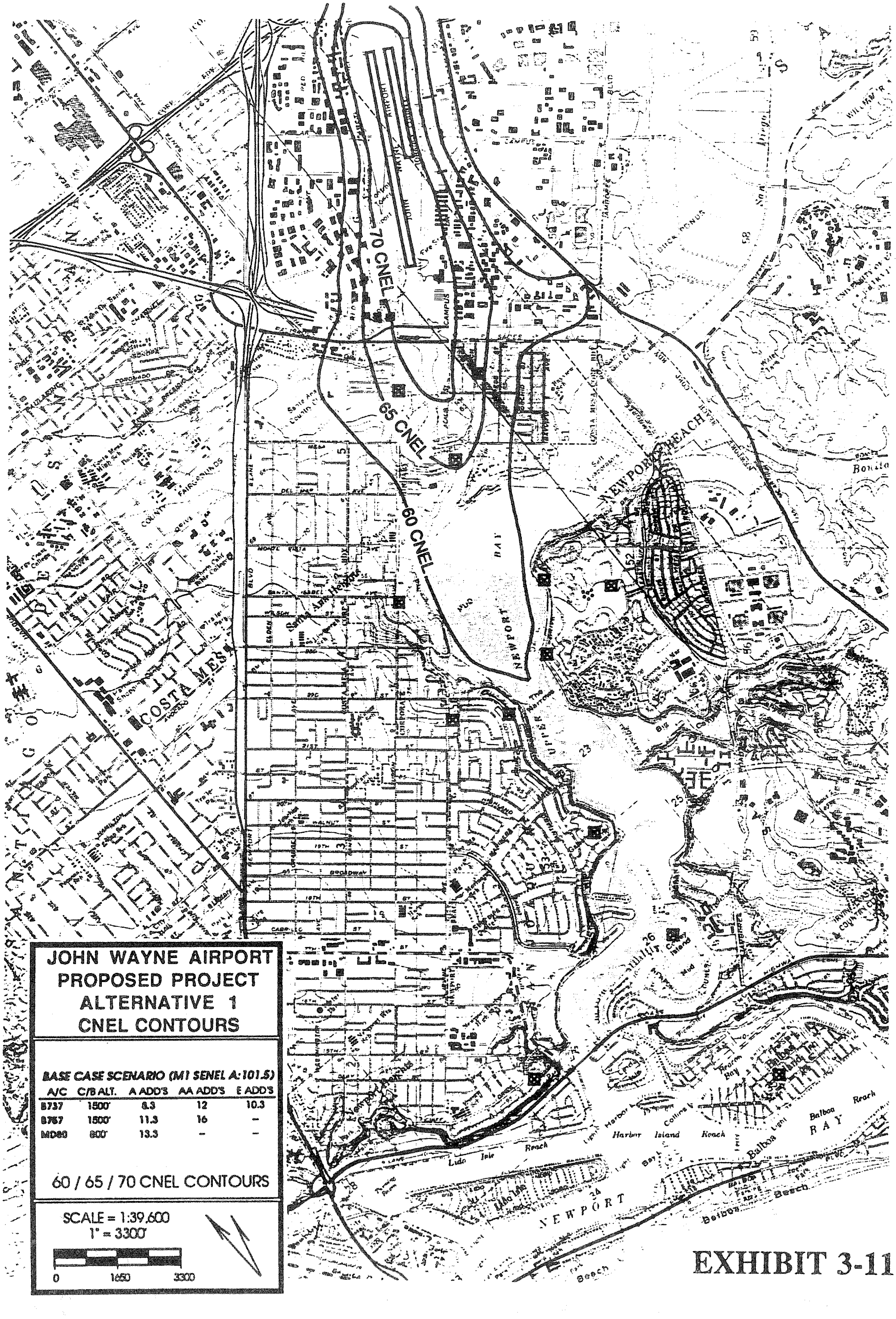

70 CNEL
65 CNEL
60 CNEL
COSTA MESA
NEWPORT BEACH
NEWPORT
Lido Isle
Harbor Island
Balboa
BAY
JOHN WAYNE AIRPORT
NOP PROJECT
CNEL CONTOURS
SCENARIO "B" (M1 SENEL A:103)
A/C C/B ALT. A ADD'S AA ADD'S E ADD'S
B737 800' - 12 22.3
B757 800' - 16 8
MD80 800' 39 - -
60 / 65 / 70 CNEL CONTOURS
SCALE = 1:39,600
1" = 3300'
0 1650 3300

EXHIBIT 3-10



JOHN WAYNE AIRPORT
PROPOSED PROJECT
ALTERNATIVE 1
CNEL CONTOURS

BASE CASE SCENARIO (M1 SENEL A:101.5)

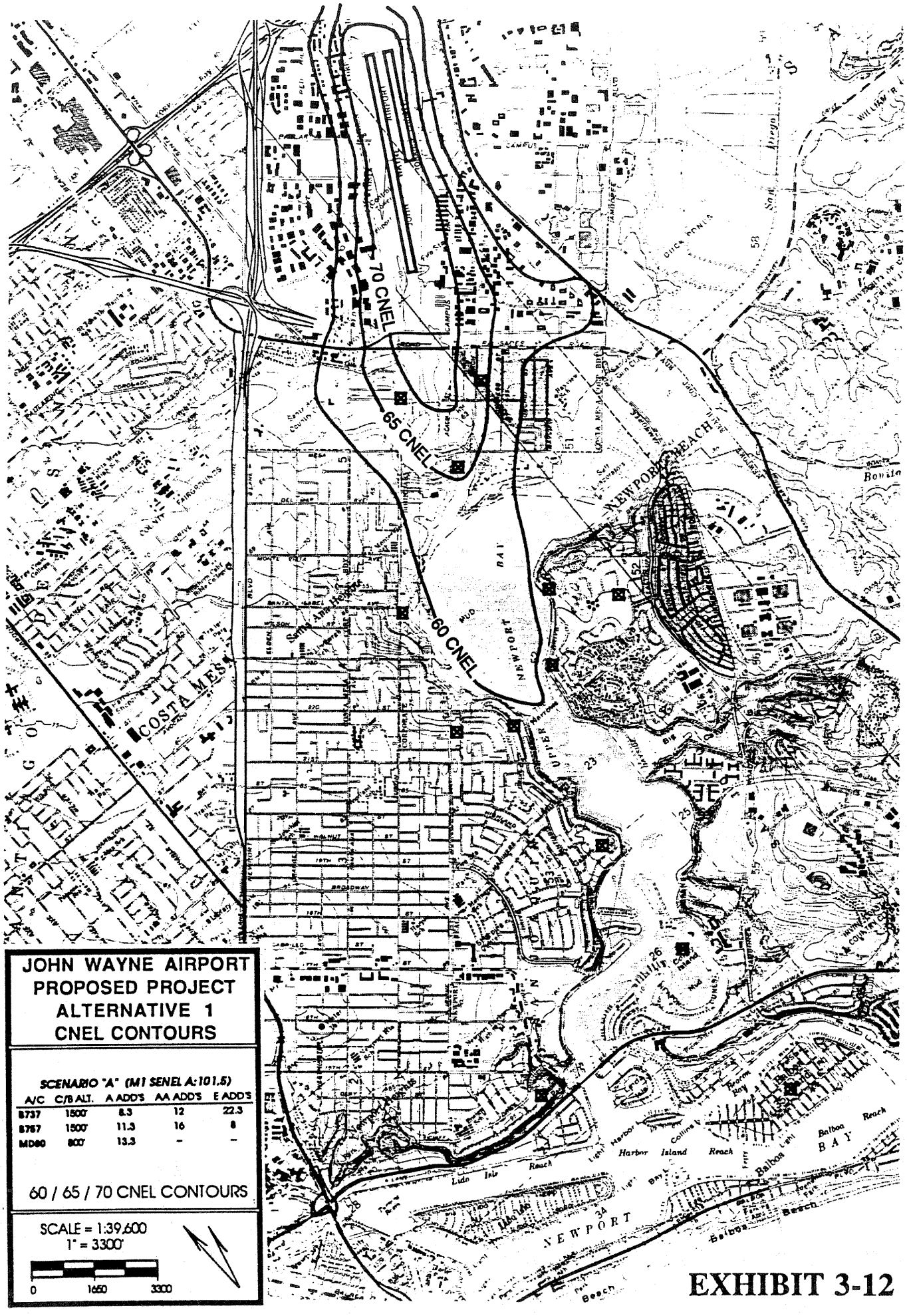
A/C	C/B ALT.	A ADD'S	AA ADD'S	E ADD'S
B737	1500'	8.3	12	10.3
B757	1500'	11.3	16	–
MD80	800'	13.3	–	–

60 / 65 / 70 CNEL CONTOURS

SCALE = 1:39,600
1" = 3300'

0 1650 3300

EXHIBIT 3-11



JOHN WAYNE AIRPORT
PROPOSED PROJECT
ALTERNATIVE 1
CNEL CONTOURS

SCENARIO "A" (M1 SENEL A:101.5)

A/C	C/B ALT.	A ADD'S	AA ADD'S	E ADD'S
B737	1500'	8.3	12	22.3
B767	1500'	11.3	16	8
MD80	800'	13.3	-	-

60 / 65 / 70 CNEL CONTOURS

SCALE = 1:39,600
1" = 3300'

0 1650 3300

EXHIBIT 3-12

JOHN WAYNE AIRPORT
PROPOSED PROJECT
ALTERNATIVE 1
CNEL CONTOURS

SCENARIO "B" (M1 SENEL A:101.5)

A/C	C/B ALT.	A ADD'S	AA ADD'S	E ADD'S
B737	1500'	–	12	22.3
B767	1500'	–	16	8
MD80	800'	39	–	–

60 / 65 / 70 CNEL CONTOURS

SCALE = 1:39,600
1" = 3300'

0 1650 3300

EXHIBIT 3-13

Alternative 2 - The 800 Foot Alternative

Alternative 2 assumes that maximum permitted noise levels would be set at RMS 1, 2 and 3 to accommodate only an 800 foot cutback by all critical commercial aircraft using JWA in each of the three regulatory classes of aircraft; *i.e.,* Class A, Class AA and Class E. The three basic CNEL analysis scenarios for the proposed project are reflected on Exhibits 3-14 ("*Base Case Scenario*"), 3-15 ("*Scenario A*") and 3-16 ("*Scenario B*").

Alternative 3 - Maintain The Current CNEL Contours

Alternative 3 is defined as maintaining the current (*i.e.,* through March 31, 1992) annual CNEL contours, and is discussed in Section 4. Alternative 3 would, essentially, eliminate single event noise limits and, instead, allocate "CNEL shares" to scheduled commercial air carriers using JWA. Therefore, meaningful single event comparisons between Alternative 3 and the other scenarios analyzed in the EIR is not feasible.

Each alternative has been examined under three different scenarios consisting of different sets of operational and fleet mix assumptions. These analysis "scenarios" are summarized as follows:

Base Case Operations Scenario ("Base Case Scenario")

The assumed fleet mix and number of operations represent existing conditions based upon operational data for the second and third quarter of 1992. This is the operational scenario which accommodates the current level of passenger service. This scenario assumes 13.3 MD-80 ADDs, which is equal to the current service level of those aircraft at JWA.[62] In subsequent discussion, tables and exhibits, this will be referred to as the "*Base Case Scenario.*"

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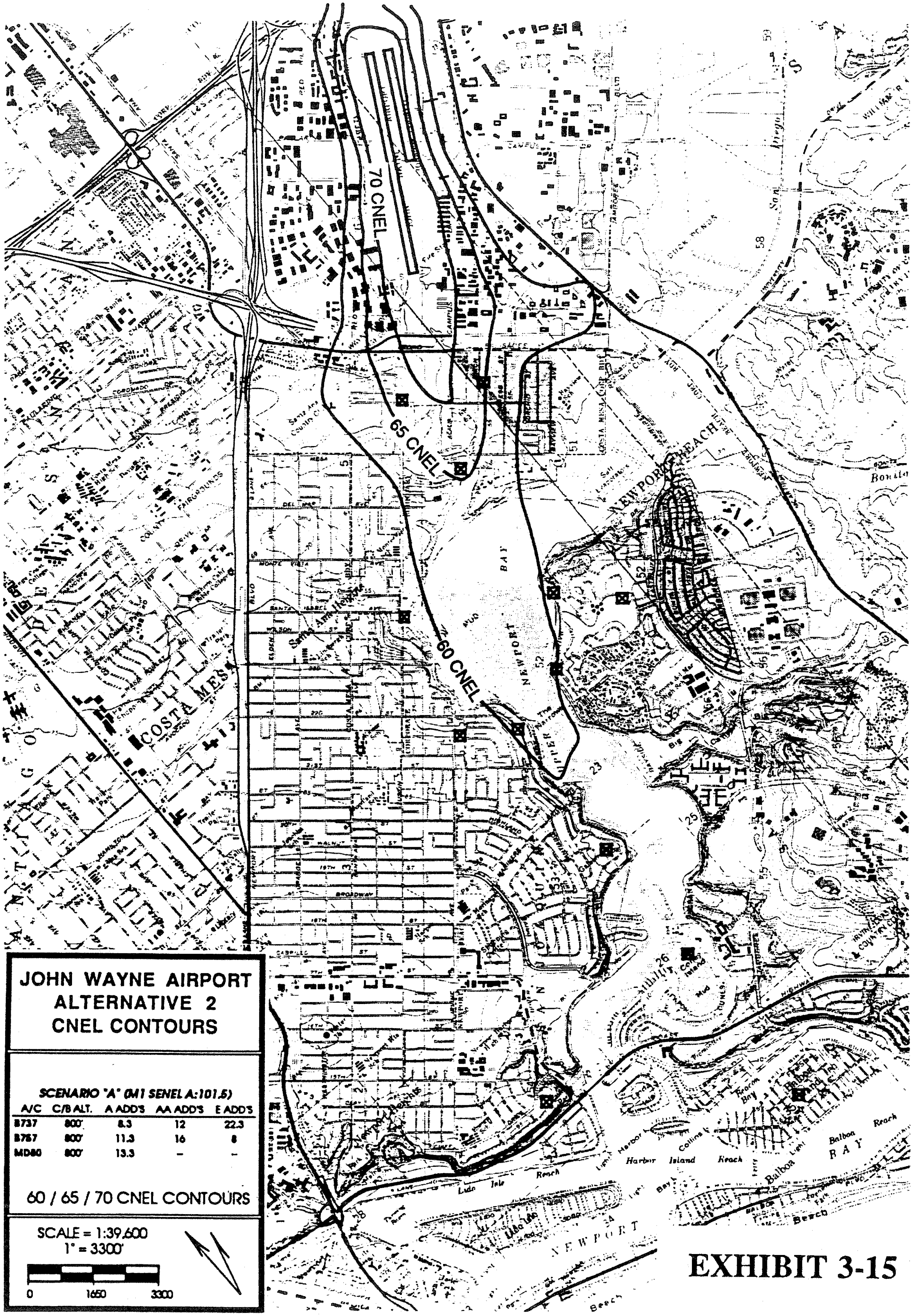
[62] For a number of years, the number of MD-80 operations at JWA has been trending downward. Some of the MD-80 operators have already advised the County that they intend to substitute other aircraft during 1993, further reducing the total number of MD-80 operations. Therefore, using this assumed level of MD-80 operations for "future" cases is conservative and, to some extent, probably over describes the probable noise impacts of the proposed project.


70 CNEL
65 CNEL
60 CNEL
COSTA MESA
NEWPORT BEACH
NEWPORT BAY
Lido Isle
Harbor Inland Reach
Balboa Reach
BAY
NEWPORT
JOHN WAYNE AIRPORT
ALTERNATIVE 2
CNEL CONTOURS
BASE CASE SCENARIO (M1 SENEL A:101.5)
A/C C/B ALT. A ADD'S AA ADD'S E ADD'S
B737 800' 8.3 12 10.3
B757 800' 11.3 16 –
MD80 800' 13.3 – –
60 / 65 / 70 CNEL CONTOURS
SCALE = 1:39,600
1" = 3300'
0 1650 3300

EXHIBIT 3-14



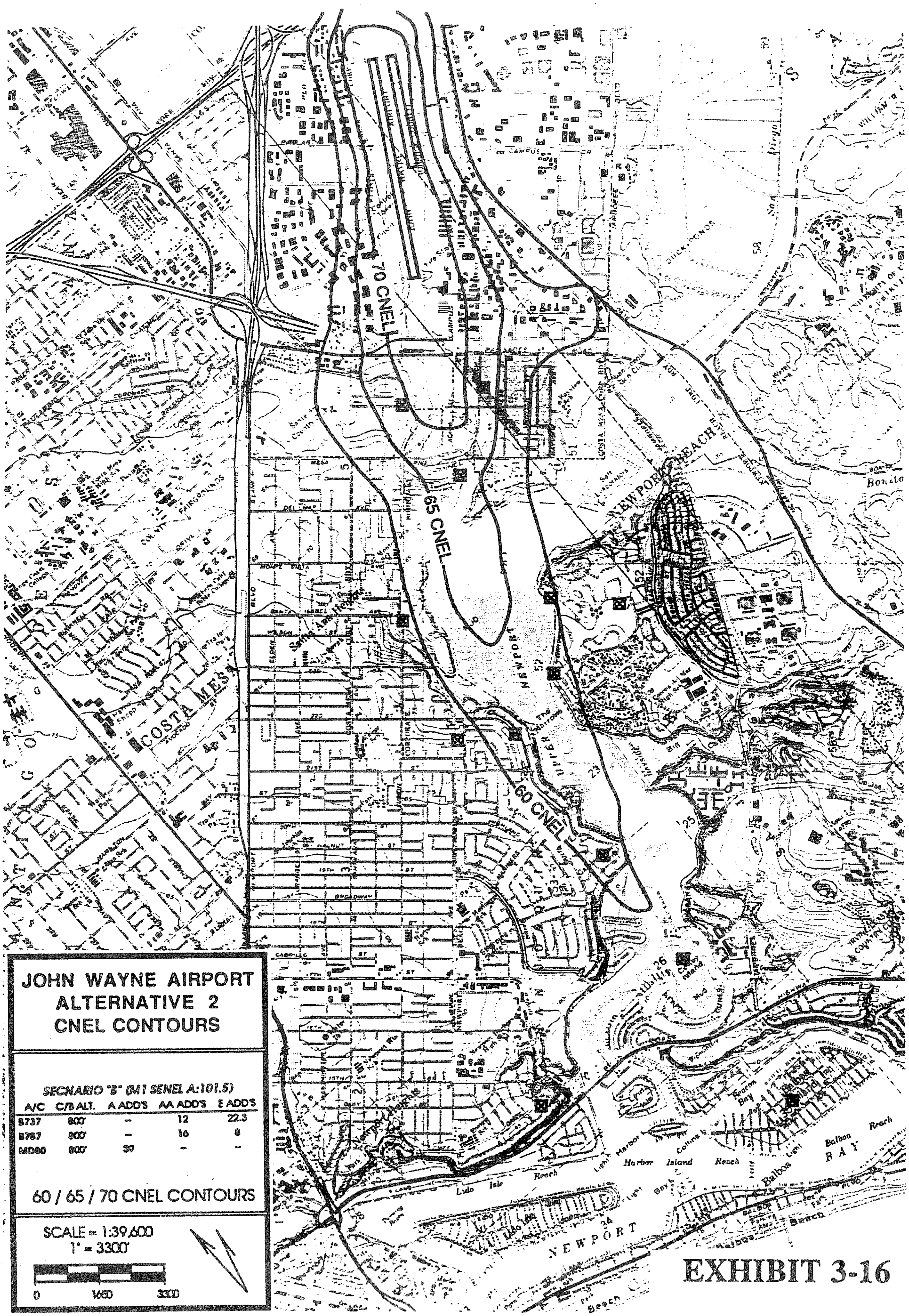
JOHN WAYNE AIRPORT
ALTERNATIVE 2
CNEL CONTOURS

SCENARIO "A" (M1 SENEL A:101.5)

A/C	C/B ALT.	A ADD'S	AA ADD'S	E ADD'S
B737	800'	8.3	12	22.3
B757	800'	11.3	16	8
MD80	800'	13.3	–	–

60 / 65 / 70 CNEL CONTOURS

EXHIBIT 3-15



JOHN WAYNE AIRPORT
ALTERNATIVE 2
CNEL CONTOURS

SECNARIO "B" (M1 SENEL A:101.5)

A/C	C/B ALT.	A ADD'S	AA ADD'S	E ADD'S
B737	800'	–	12	22.3
B757	800'	–	16	8
MD80	800'	39	–	–

60 / 65 / 70 CNEL CONTOURS

EXHIBIT 3-16

The 8.4 MAP Service Level Scenario ("Scenario A")[63]

This scenario assumes the same fleet mix and operations levels as defined for the *Base Case Scenario, plus* an additional number of Class E operations that result in the airport accommodating 8.4 million annual passengers ("MAP"). The assumed number of MD-80 operations remains at 13.3 ADD's. In subsequent discussion, tables and exhibits, this analysis scenario will be referred to as, "*Scenario A.*" This scenario is considered to be the "most likely" set of assumptions on service level and fleet mix as the air carriers add aircraft to meet the growing level of demand at JWA to the 8.4 MAP "cap."

The 39 MD-80 Scenario ("Scenario B")

In this scenario, all 39 Class A ADD's are assumed to be operated by MD-80 aircraft. The Class AA operations remain the same as in the two other analysis scenarios. The Class E operation assumptions are the same as in the 8.4 MAP Service Level Scenario with sufficient Class E operations to fill the 8.4 MAP limit. In subsequent discussion, tables and exhibits, this analysis scenario will be referred to as, "*Scenario B.*" This scenario is based upon the artificial assumption that every air carrier with a Class A ADD will operate that ADD with an MD-80 series aircraft. There is no reason to believe that this will be true and, in fact, the historical trend at JWA has been towards reduced use of MD-80 aircraft. However, this scenario allows the noise analysis to test the "boundary" condition of the environmental impacts by describing a true "worst-case" operational scenario.

The maximum permitted noise limits which would be required under each alternative, and which have been used for further analysis in this document, are summarized in Table 3-4.

As discussed more completely in Appendix D, an effort was made during the noise level demonstration and the data analysis to correlate noise levels generated during the demonstration with a wide variety of variables which, potentially, could affect or influence the measured noise levels. The result of this analysis was that there is a statistically significant relationship between the gross takeoff weight of the aircraft and its

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[63] EIR 508/EIS contemplated a service level under the 1985 Master Plan of 10.2 MAP. As part of the settlement negotiations in 1985 with the City of Newport Beach, SPON and AWG, the County agreed to add as mitigation to the 1985 Master Plan project a maximum permitted service level of 8.4 MAP during the term of the agreement. This limitation was adopted by the Board of Supervisors and incorporated into the settlement stipulation and confirming court order.

TABLE 3-4

ALTERNATIVE MAXIMUM PERMITTED SENEL LIMITS

	Remote Monitoring Stations								
	1	2	3	21	22	24	4	5	6
No Project									
Class A ADDs	100.8	100.9	98.5	[a]	[a]	[a]	[a]	[a]	[a]
Class AA ADDs	90.3	90.4	89.5	[b]	[b]	[b]	89.5	89.5	89.5
Class E ADDs	86.8	86.9	86.0	[b]	[b]	[b]	86.0	86.0	86.0
NOP Project									
Class A ADDs	*103.0*	*103.0*	*100.5*	[c]	[c]	[c]	[d]	[d]	[c]
Class AA ADDs	***94.5***	***94.5***	***91.5***	89.5	89.5	89.5	89.5	89.5	89.5
Class E ADDs	***92.5***	***92.5***	***89.5***	86.0	86.0	86.0	86.0	86.0	86.0
Proposed Project (Alternative 1)									
Class A ADDs	*101.5*	*101.0*	*100.5*	93.5	93.5	95.5	[d]	[d]	92.0
Class AA ADDs	***94.0***	***94.0***	*91.0*	89.5	89.5	89.5	89.5	89.5	89.5
Class E ADDs	***92.5***	***92.5***	***89.0***	86.0	86.0	86.0	86.0	86.0	86.0
Alternative 2									
Class A ADDs	*101.5*	*101.0*	*100.5*	93.5	93.5	95.5	[d]	[d]	92.0
Class AA ADDs	*92.5*	*92.5*	*90.5*	89.5	89.5	89.5	89.5	89.5	89.5
Class E ADDs	***90.0***	***90.0***	***88.5***	86.0	86.0	86.0	86.0	86.0	86.0

NOTES:

Numerical values which appear in *italics type* represent increases from the "no project" case. Numerical values which appear in ***bold italics type*** are considered significant single event noise level increases.

[a] No noise levels have been set for these stations under the Phase 2 Access Plan. See also note **[b]** with respect to TMS 21, 22 and 24.

[b] One element of the proposed project is to make these permanent regulatory monitoring stations. Under the "no project" alternative, these monitoring stations would not be made permanent.

[c] The NOP did not propose establishing noise limits for Class A Aircraft at TMS 21, 22 and 24. The proposal to do so in this document is part of the project mitigation.

[d] Since the project proposes to remove RMS 4 and 5, no Class A noise limits are proposed for those stations.

single event noise levels. The critical weight variables for an aircraft operations are the number of passengers (and their baggage) on one hand, and fuel on the other. Obviously, the greater distance an aircraft is flying before its next stop, the more fuel it requires. In order to meet the previous noise limits, some of the carriers, occasionally, have had to "block" seats (*i.e.,* make them unavailable for use on departure out of JWA) in order to keep their gross takeoff weights within limits which will permit compliance with Class A, AA or E noise limits. This stimulates demand for more flights, particularly Class E flights, to make up for the unserved passenger demand which could not be accommodated on flights where the carrier found it necessary to block seats to meet the maximum permitted noise limits. To the extent that this practice can be minimized, the entire community is served by allowing more passengers to be served with fewer flights. On the other hand, it is not an objective of the County in this process to, in effect, allow the carriers to use Class AA ADDs in what have historically been Class A markets, or otherwise realize a significant change in the pre-demonstration operational status quo. The recommended noise limits (under the proposed project (Alternative 1)) have been carefully analyzed and developed to maintain the pre-demonstration operational status quo as much as possible, while avoiding setting the noise levels so low that they will routinely require the carriers to block seats on their aircraft in order to comply with the permitted noise levels.

The Class A limits are, as noted earlier, controlled by the noise levels required by MD-80 operations using an 800 foot power cutback procedure. The longest distance non-stop market served with this aircraft before the beginning of the noise level departure demonstration was JWA/St. Louis, operated by TWA. These flights were operated before the demonstration with noise abatement departure procedures which did initiate power reduction below 800 feet (and, therefore, outside of the permitted "envelope" of the new AC 91-53A). These flights also define the difference between the airport staff and McDonnell Douglas with respect to the necessary Class A noise limits at RMS 1 and 2. McDonnell Douglas staff believes that the minimum necessary maximum permitted Class A noise levels at RMS 1 and 2 needs to be set at 102.5 dB SENEL in order to maintain the pre-demonstration operational status quo and allow the TWA MD-80 flights to St. Louis to continue after the proposed access plan modifications. On the other hand, the airport staff wishes to minimize the extent to which the maximum permitted Class A noise levels must be increased - while preserving the pre-demonstration operational and mission capacity of the airport - particularly because these are the noisiest class of aircraft using JWA. The final numbers proposed in the proposed project (Alternative 1), 101.5 dB SENEL and 101.0 dB SENEL at RMS 1 and 2, respectively, represent the best professional judgment of the acoustical consultant to the County on this project and airport staff as to the levels reasonably required to accommodate TWA's St. Louis flights. However, as discussed in the mitigation section below, the County is concerned about retaining sufficient flexibility to make minor adjustments to these numbers if necessary to maintain the pre-demonstration operational status quo.

The proposed limits for Class AA aircraft assumed lower gross takeoff weights consistent with the historical record of weights by class flown by the airlines prior to the

demonstration. In other words, some aircraft, such as the Boeing 757 and 737-300+ series aircraft, can and have operated at JWA as Class A, Class AA and Class E aircraft, depending primarily upon their gross takeoff weights.[64] This reduction in weight could be the result of two different discretionary actions by the air carriers: First, the Class AA ADDs are typically used in short and medium haul markets, reducing the need for fuel compared to longer haul markets and thereby reducing the gross takeoff weight of the aircraft. The second choice for the carrier is to operate the Class AA ADD in a longer haul market but to make the necessary weight compensation by "blocking seats" reducing the passenger and baggage weight of the aircraft on takeoff. The latter choice, of course, is, to some extent, inefficient because it creates additional flight level demand because passengers which could have been accommodated on a heavier weight flight will require an additional flight because seats on the first flight were "blocked" and not used.

The weight data for the first and second quarter of 1992, neglecting those aircraft that started the demonstration in April 1992, were examined and the noise level limits shown in Table 3-4 were regressed using the maximum quarterly average weights found during the first two quarters of 1992. Thus, these limits should preserve the level of service occurring prior to the demonstration. This means that airlines may continue blocking seats on Class AA and Class E aircraft to limit weight in order to comply with the noise level limits if they choose to operate these aircraft to more distant markets. On the other hand, to the extent those flights can be operated in shorter and medium haul markets, the proposed noise limits should be adequate to avoid requiring the carriers to block seats in order to meet the proposed maximum permitted noise levels.

The alternative Class E limits reflected in Table 3-4 were developed by trying to find a procedure that kept the maximum permitted Class E limit to less than 90 dB SENEL under the proposed project (Alternative 1) in an effort to minimize the increase in single event noise as a result of the procedure change. However, the results demonstrated that this was not possible at RMS 1 and 2 if the Boeing 737-300+ series aircraft was to be maintained as a Class E capable aircraft, as it was before the demonstration.[65] However, under Alternative 2 to the proposed project (Alternative 1), which assumes an 800 foot cutback procedure with the maximum thrust reduction allowed by proposed AC 91-53A as the criteria procedure for the new noise levels at RMS 1, 2 and 3, it is possible to set the maximum permitted Class E noise limit at 90.0 dB SENEL at RMS 1 and 2 and at 88.5 dB SENEL at RMS 3. Again, the proposed increases in the maximum permitted noise levels

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[64] In the case of Class AA and Class E operations, the ability of these aircraft to operate in the Class AA or Class E category was, at least in some cases, also dependent upon use of power cutback procedures which would be incompatible with the limits of the new AC 91-53A. This is one of the reasons why the proposed increases in maximum permitted noise levels are greater for Class AA and Class E Aircraft than for Class A Aircraft under the proposed project (Alternative 1).

[65] At RMS 3, the proposed project (Alternative 1) would limit the maximum permitted Class E noise limit to 89.0 dB SENEL.

at RMS 1, 2 and 3 are greatest for Class E Aircraft, principally because before the noise level demonstration, it was the Class E aircraft which had been performing the largest power reductions (or "cutback") at the lowest altitudes, and thus the changes required by AC 91-53A cause these aircraft to experience the largest single event noise increases with the new change in procedure minimums.

3.1.4.1 SINGLE EVENT (SENEL) NOISE LEVELS

Single event noise levels are one predictor of when annoyance from aircraft noise is likely to occur. While cumulative (*i.e.,* CNEL or L_{dn}) descriptors have generally been accepted as the best predictors of overall "community annoyance" from an aircraft noise environment, the cumulative descriptors do not directly provide information on single event noise levels. In other words, while SENEL is itself the critical building block of a CNEL calculation, a specific CNEL value (*i.e.,* 65 dB CNEL) does not allow any conclusions to be drawn as to the single event noise levels which, together, constitute the CNEL values, nor does it allow any conclusions to be drawn regarding the number of aircraft events which comprise the CNEL level. To state that a given point on the ground is subject to an aircraft noise environment of, for example, 70 dB CNEL could describe a wide range of single event noise level and operation level combinations: the 70 dB CNEL contour could be the result of relatively few very noisy aircraft events or it could be the result of a larger number of relatively quiet aircraft noise events.

There are two principal reasons for analyzing single event noise levels in this EIR. First, is important because the community around JWA has frequently expressed the concern that cumulative noise metrics, like CNEL, do not adequately reflect the effects of high single event noise levels associated with jet overflights. In response to this concern, the community requested that EIR 508/EIS include 85 dB SENEL contours for the various aircraft types projected to use the airport during the EIR 508/EIS study period (through 2005). The 85 dB SENEL contour was used as defining a boundary where single event noise stood out demonstrably from other ambient noise sources and marked aircraft noise a major neighborhood concern. An aircraft noise level of 85 dB SENEL would typically result from a flyover maximum noise level of 75 dBA and last about 40 seconds. A loud automobile or truck would produce similar noise levels on a local street, close to the street, but would have a shorter duration. While there is no other scientific or regulatory guideline for using the 85 dB SENEL single event contour data, this technique does provide a valid comparison of aircraft noise levels by aircraft type, and for the purpose of this study, by departure procedure.

Second, single event noise levels can be used to analyze the potential for interference with normal speech, watching television, sleep interference, and other similar effects resulting directly from a specific aircraft noise event.

Therefore, single event noise contours are presented in this EIR for the aircraft types frequently using JWA, and for the alternative noise abatement departure procedures which were evaluated during the noise level demonstration and which were identified as procedures which could legitimately be used to establish new maximum permitted noise levels at RMS 1, 2 and 3 (*i.e.,* the 1500 foot and the 800 foot procedures). These 85 dB SENEL contours are presented in Exhibits 3-17 through 3-21. These contours show the significant difference in noise levels generated by different types of aircraft. The contours for the MD-80 (Exhibit 3-17) show the difference which would result from setting the maximum permitted noise level for Class A Aircraft at RMS 1 at 103.0 dB SENEL (the "NOP project case") and 101.5 dB SENEL (the proposed project [Alternative 1]). The contours shown for each Boeing aircraft are shown for three different gross takeoff weights. In each case these weights represent the estimated maximum gross takeoff weight that aircraft could operate at and still meet the proposed maximum permitted Class E (lowest weight), Class AA and Class A (highest weight) noise levels.

3.1.4.2 CUMULATIVE (CNEL) NOISE CONTOURS

Cumulative noise descriptors are universally recognized as useful land use planning tools. Studies have demonstrated a statistical correlation between high levels of community annoyance and long term exposure to a defined cumulative noise environment. Thus, CNEL is a noise evaluation tool equally important with SENEL for purposes of analyzing the impacts of the proposed project. For that reason, an extensive CNEL analysis of the proposed project has been conducted.

Annual CNEL contours for John Wayne Airport which reflect the alternative maximum permitted noise levels as between the NOP project, the proposed project (Alternative 1), and Alternative 2 (the 800 foot departure procedure) were developed.[66] The process used for the development of these contours was identical to the development of the existing contours presented in Exhibit 10 of Appendix D. All assumptions remain the same with the exception of the differences in the assumed departure profiles. The purpose of this section is to determine the change in CNEL associated with the alternative SENEL noise limit scenarios, including the following: (i) Base Case Operations ("*Base Case Scenario*"); (ii) the 8.4 MAP Service Level (13.3 MD-80) scenario ("*Scenario A*"); and (iii) the 39 MD-80 (8.4 MAP) scenario ("*Scenario B*").

The Class E operation level assumptions developed for the "A" and "B" scenarios were based on accommodating the difference between the current passenger service level of approximately 6.0 MAP and the 1985 Settlement Agreement limit of 8.4 MAP with Boeing 737-300+ and Boeing 757 series aircraft. The effect of Class E

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[66] The contours for Alternative 3, discussed in Chapter 4, below, would be the same as the current CNEL contours reflected on Exhibits 3-4 and 3-5.

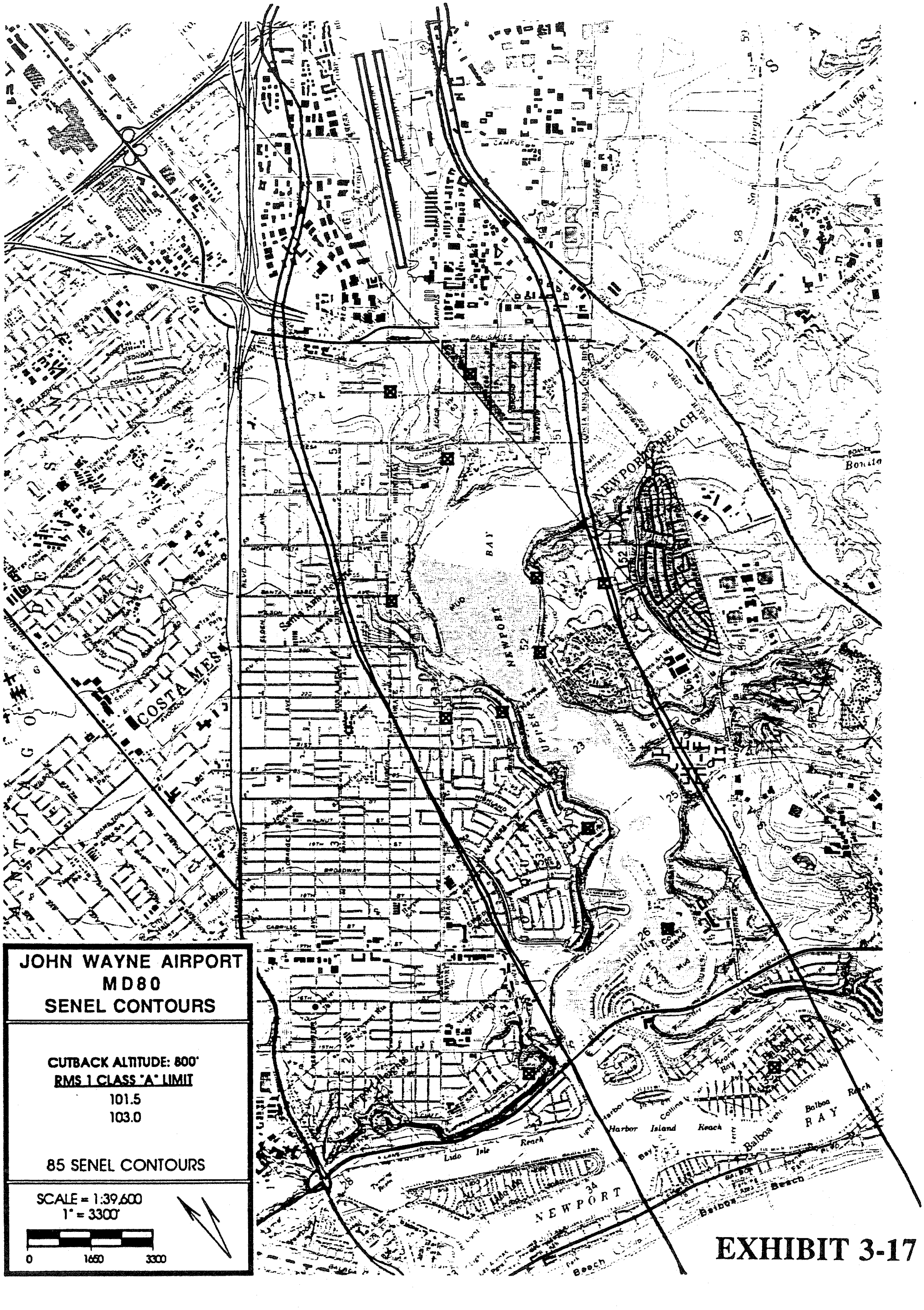
JOHN WAYNE AIRPORT
MD80
SENEL CONTOURS
CUTBACK ALTITUDE: 800'
RMS 1 CLASS "A" LIMIT
101.5
103.0
85 SENEL CONTOURS
SCALE = 1:39,600
1" = 3300'
0
1650
3300
COSTA MESA
NEWPORT BEACH
NEWPORT BAY
UPPER
NEWPORT
Lido Isle Reach
Harbor Island Reach
Balboa BAY
PALISADES
CAMPUS

EXHIBIT 3-17

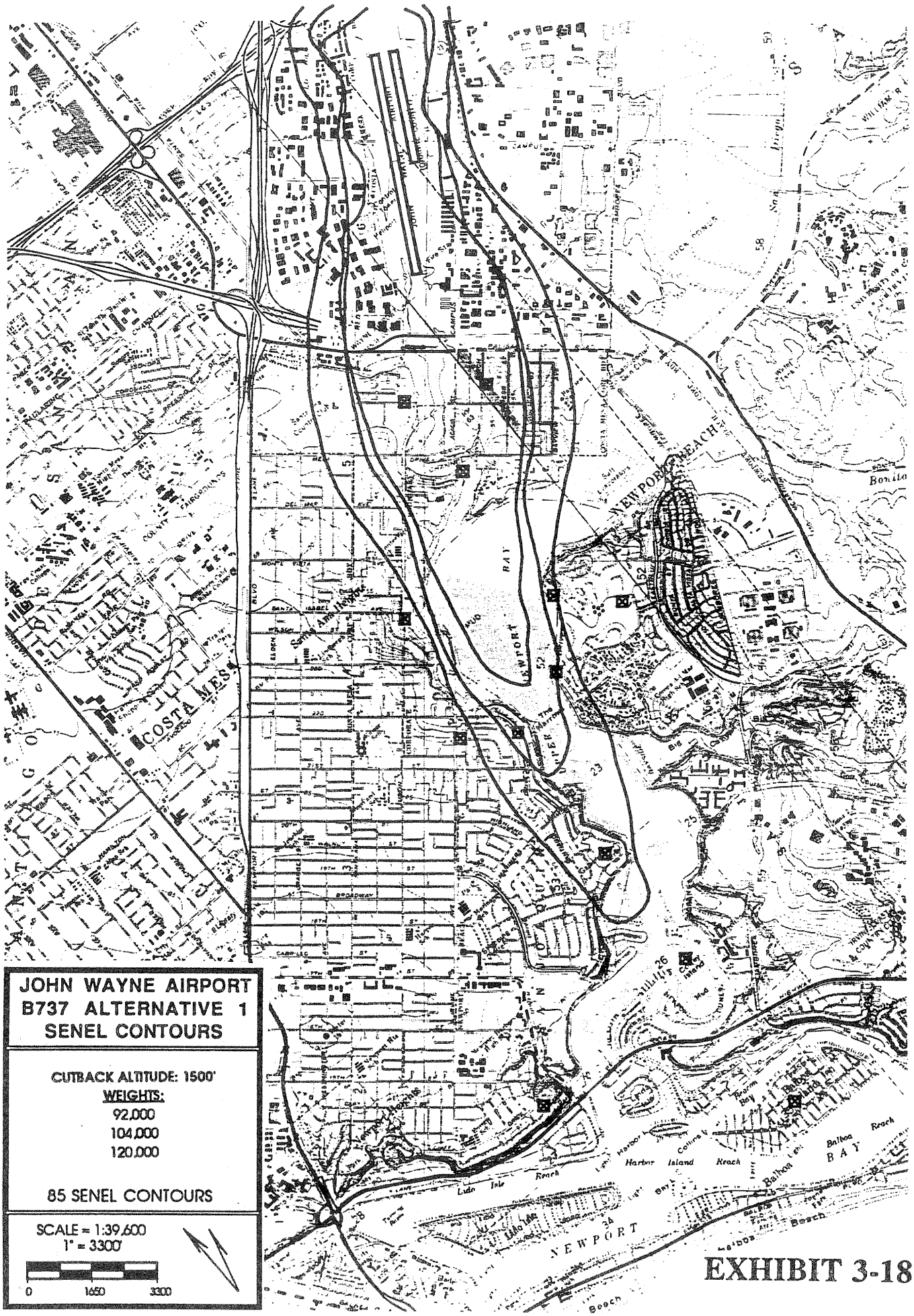
JOHN WAYNE AIRPORT
B737 ALTERNATIVE 1
SENEL CONTOURS
CUTBACK ALTITUDE: 1500'
WEIGHTS:
92,000
104,000
120,000
85 SENEL CONTOURS
SCALE = 1:39,600
1" = 3300'
0
1650
3300
COSTA MESA
NEWPORT BEACH
NEWPORT
BAY
Santa Ana Heights
Lido Isle
Harbor Island
Balboa
Beach

EXHIBIT 3-18

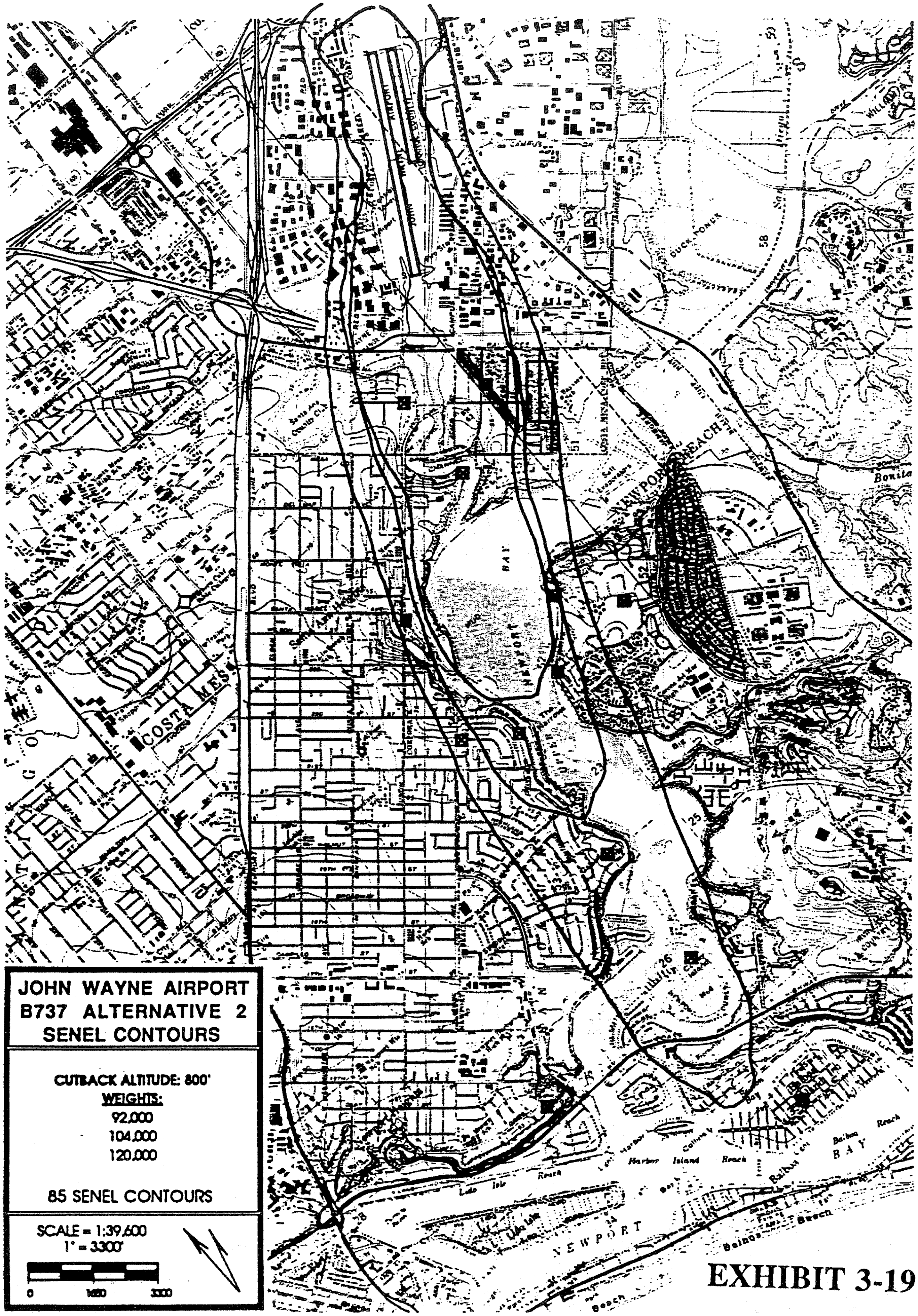
JOHN WAYNE AIRPORT
B737 ALTERNATIVE 2
SENEL CONTOURS
CUTBACK ALTITUDE: 800'
WEIGHTS:
92,000
104,000
120,000
85 SENEL CONTOURS
SCALE = 1:39,600
1" = 3300'
0
1650
3300

EXHIBIT 3-19

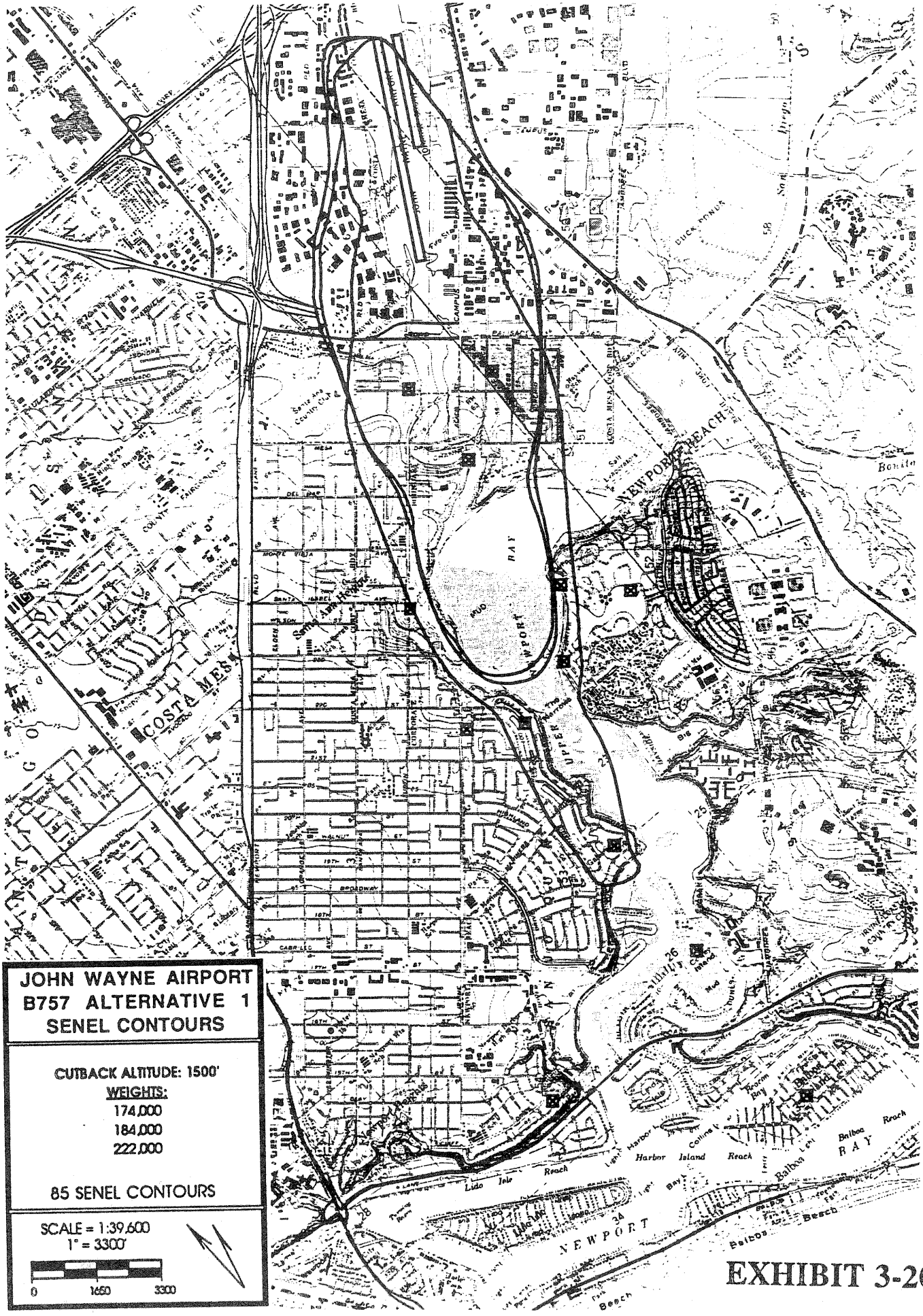
JOHN WAYNE AIRPORT
B757 ALTERNATIVE 1
SENEL CONTOURS
CUTBACK ALTITUDE: 1500'
WEIGHTS:
174,000
184,000
222,000
85 SENEL CONTOURS
SCALE = 1:39,600
1" = 3300'
0
1650
3300
COSTA MESA
NEWPORT BEACH
NEWPORT
BAY
Lido Isle
Harbor Island
Balboa
Beach

EXHIBIT 3-20

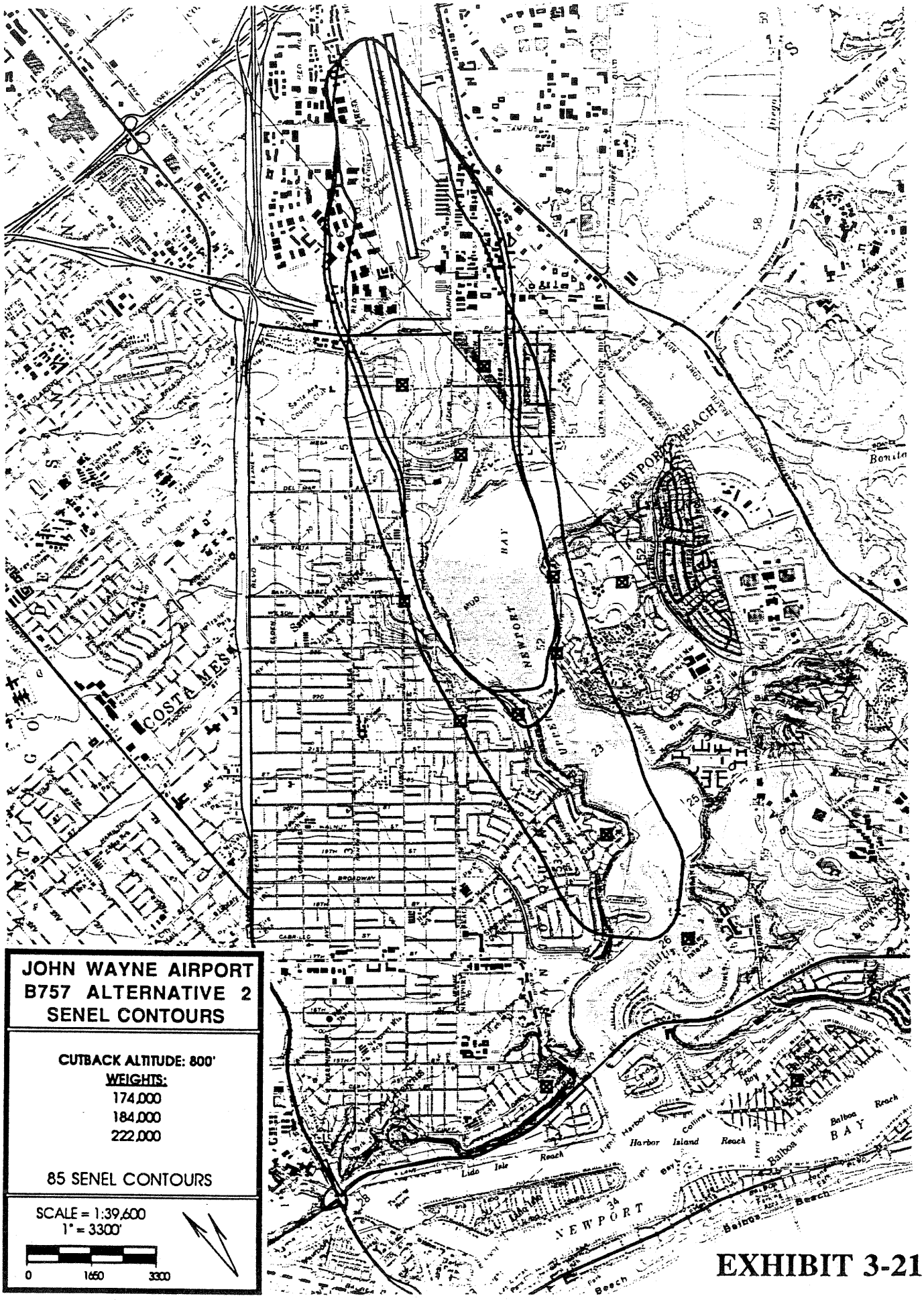
JOHN WAYNE AIRPORT
B757 ALTERNATIVE 2
SENEL CONTOURS
CUTBACK ALTITUDE: 800'
WEIGHTS:
174,000
184,000
222,000
85 SENEL CONTOURS
SCALE = 1:39,600
1" = 3300'
0
1650
3300
NEWPORT BEACH
COSTA MESA
NEWPORT BAY
Lido Isle
Harbor Island
Reach
Balboa
BAY
NEWPORT
Beach

EXHIBIT 3-21

operations can be estimated by determining the number of ADD's needed to increase airport passenger service level to 8.4 MAP. Using an assumed load factor of 70%, the number of additional B-757, B-737, and BAe-146 operations needed to reach 8.4 MAP was calculated. If all additional Class E operations were B-757 operations, the increase would be 15 ADD's. If all were B-737's the increase in ADD's would be 23. If the increase were all BAe-146 aircraft, the increase would be 37 ADD's.[67] Although exact future fleet mixes are impossible to predict with certainty because of the discretion of the air carriers, even under the PHASE 2 ACCESS PLAN, a more likely fleet mix to accommodate this growth to an 8.4 MAP service level would be 12 B-737 and 8 B-757 ADD's. This assumption divides Class E served passengers evenly between the B-757 and B-737. The number of ADD's operated by each aircraft type are different because the B-757 has a much larger passenger capacity than the B-737 series airplanes. The operations level assumptions for the *Base Case Scenario, Scenario A* and *Scenario B* are summarized in Table 3-5.

Exhibits 3-8 through 3-16 show the annual CNEL contours for each alternative scenario (including the "NOP case" [Exhibit 3-8]) where CNEL values would change as a result of the implementation of this project. These exhibits present the 60, 65, and 70 dB CNEL noise contours. The CNEL contours clearly show that the single biggest difference among each scenario is associated with the number of MD-80 operations.

The total area within the 60, 65, and 70 dB CNEL contours is presented in Table 3-17 (*see* Section 3-2, below). This is the total area within the noise contours regardless of land use and includes airport property. The CNEL at each of the 14 measurement locations for each scenario is presented in Table 3-6. For the purpose of determining the effect of the alternative changes in departure profiles, the difference in CNEL should be determined between scenarios with like operational assumptions. These differences are provided in Table 3-7.

A more detailed analysis of land use effects of the proposed project is contained in Section 3.2, below. On a general basis, however, Table 3-17 reflects the relative size of the 60, 65 and 70 dB CNEL contours under the various alternative scenarios.[68] Generally, the residential areas affected by the 65 dB CNEL contour are all within Santa Ana Heights and the Anniversary Tract. Those residential areas outside of the 65 dB CNEL contour, but within the 60 dB CNEL contour, are located primarily in Newport Beach, south of Santa Ana Heights, although there are also some areas within Santa Ana

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[67] This is a highly unlikely scenario. Since AirCal merged with American, and since PSA merged with USAir and USAir withdrew from service at JWA, there has not been a significant BAe-146 presence at JWA. Indeed, only a commuter affiliate of United Airlines, WestAir, has been using that aircraft under special provisions of the PHASE 2 ACCESS PLAN. At the present time, there is no reason to believe that there will be a significant growth in the use of that aircraft at JWA in the foreseeable future.

[68] There are no incompatible land uses within the 70 dB CNEL contour under any of the alternative cases or scenario analysis.

TABLE 3-5

SCENARIO OPERATIONS LEVEL ASSUMPTIONS

	SCENARIO (Assumed Annual ADDs)		
Aircraft Type	***Base Case***	***A***	***B***
MD-80	13.3	13.3	39.0
Boeing 737-300+			
Class A	8.3	8.3	-
Class AA	12.0	12.0	12.0
Class E	10.3	22.3	22.3
Boeing 757			
Class A	11.3	11.3	-
Class AA	16.0	16.0	16.0
Class E	-	8.0	8.0
Airbus A-320			
Class A	5.4	5.4	-
Class AA	.2	.2	.2
BAe-146			
Class E	5.8	5.8	5.8
Total ADDs	82.6	102.6	103.3
MAP Service Level	6.0 MAP	8.4 MAP	8.4 MAP

Heights within this noise environment: and under some alternatives and scenarios, this includes most or all of the Anniversary Tract.

TABLE 3-6

CNEL LEVEL COMPARISON AT DEPARTURE MONITORING STATIONS
(dB CNEL)

	No Project	Proposed Project (Alternative 1)			Alternative 2 (800 Foot Alternative)		
RMS		*Base Case Scenario*	*Scenario A*	*Scenario B*	*Base Case Scenario*	*Scenario A*	*Scenario B*
1	64.2	67.5	67.9	69.1	66.6	66.9	68.7
2	62.3	65.9	66.3	67.5	64.9	65.3	67.1
3	63.5	65.4	65.8	67.0	65.1	65.5	66.9
4	56.9	55.0	55.5	57.6	55.8	56.2	57.8
5	52.8	51.3	51.8	53.6	51.8	52.3	53.8
6	56.2	55.9	56.3	58.6	56.3	56.6	58.6
21	58.5	57.8	58.3	60.3	58.4	58.9	60.5
22	55.9	56.0	56.4	58.4	56.5	57.0	58.6
23	61.4	58.9	59.3	61.5	59.9	60.3	61.7
24	61.5	59.4	59.7	61.9	60.4	60.7	62.1
25	59.7	57.8	58.1	60.5	58.6	58.8	60.6
26	47.5	46.6	47.1	48.6	47.2	47.7	48.9
27	47.7	46.9	47.3	48.1	47.4	47.8	48.5
28	54.6	53.9	54.5	56.7	54.4	55.0	56.9

Note: The "No Project" column represents the annual CNEL values at each station immediately preceding the noise level demonstration.

TABLE 3-7

CHANGES IN CNEL LEVELS AT DEPARTURE MONITORING STATIONS
(dB CNEL)

	No Project	Proposed Project (Alternative 1)			Alternative 2 (800 Foot Alternative)		
RMS		*Base Case Scenario*	*Scenario A*	*Scenario B*	*Base Case Scenario*	*Scenario A*	*Scenario B*
1	0	***3.3***	***3.7***	***4.9***	***2.4***	***2.7***	***4.5***
2	0	***3.6***	***4.0***	***5.2***	***2.6***	***3.0***	***4.8***
3	0	***1.9***	***2.3***	***3.5***	***1.6***	***2.0***	***3.4***
4	0	***-1.9***	-1.4	0.7	-1.1	-0.7	0.9
5	0	***-1.5***	-1.0	0.8	-1.0	-0.5	1.0
6	0	0.3	0.1	***2.4***	0.1	0.4	***2.4***
21	0	-0.7	-0.2	***1.8***	-0.1	0.4	***2.0***
22	0	0.1	0.5	***2.5***	0.6	1.1	***2.7***
23	0	***-2.5***	***-2.1***	0.1	***-1.5***	-1.1	0.3
24	0	***-2.1***	***-1.8***	0.4	-1.1	-0.8	0.6
25	0	***-1.9***	***-1.6***	0.8	-1.1	-0.9	0.9
26	0	-0.9	-0.4	1.1	-0.3	0.2	1.4
27	0	-0.1	-0.4	0.4	-0.3	0.1	0.8
28	0	-0.7	-0.1	***2.1***	-0.2	0.4	***2.3***

Notes: Negative values indicate CNEL reductions from the "no project" case.

Values which appear in ***bold italics***, including negative values, are values which exceed the FAA's 1.5 dB CNEL threshold of significance.

In addition to the information in these tables and contour exhibits, there are some significant facts which are reflected in Table 3-16 (*see* Section 3.2, below). Focusing first on the 60 dB CNEL contour, it is worth noting that the largest of the contours occurs under the "no project" alternative, except for the artificial "*Scenario B*" where

the assumption is made that all 39 Class A ADDs are operated by MD-80 aircraft. In other words, except for artificial "worst case" scenarios, the proposed project would probably result in a decrease in the size of the 60 dB CNEL contour south of JWA under any alternative, both at current service levels (6.0 MAP) and at the projected future service levels of 8.4 MAP. The proposed project (Alternative 1) results in smaller 60 dB CNEL contour areas than Alternative 2 (the 800 foot alternative) both at current and maximum passenger service levels. This was the expected result since the 60 dB CNEL contour is generally in an area where a 1500 foot departure procedure produces less noise than an 800 foot departure procedure. Both the proposed project (Alternative 1) and Alternative 2 produce the same size 60 dB CNEL contour when the "*Scenario B*" assumption of 39 MD-80 ADDs is made. This shows the extent to which the MD-80 operations dominate the definition and location of the CNEL contours. At an operations level of 39 MD-80 ADDs, the noise generated by the other commercial operations (all Class AA and Class E commercial operations) does not affect the size of the 60 or 65 dB CNEL contours in any measurable way. At lower MD-80 operations levels (*i.e.*, "*Base Case Scenario*" and "*Scenario A*"), the noise contributed by the other commercial operations is a factor in the size of the 60 and 65 dB CNEL contours, although the areas affected are less than one-tenth of a square mile.

Focusing specifically on the 65 dB CNEL contour, the most noteworthy fact reflected on Table 3-16 is that the "no project" case results in the smallest contour and Alternative 2 (the 800 foot procedure) produces a smaller contour than the proposed project: exactly the opposite of the 60 dB CNEL contour. Again, this is an expected result since, as noted earlier, and as reflected in the analysis contained in Appendix D, an alternative which establishes maximum permitted noise levels at levels adequate to accommodate an 800 foot noise abatement departure procedure minimizes the noise impacts in Santa Ana Heights, but produces higher noise levels south of Santa Ana Heights. Again, under the artificial assumption of 39 MD-80 Class A departures per day (*i.e.*, "*Scenario B*"), the size of the 65 dB CNEL contours are essentially identical for both Alternative 1 (the proposed project) and Alternative 2 (the 800 foot procedure alternative).

Tables 3-6 and 3-7 provide important information on the predicted CNEL effects of the proposed project and its alternatives, under the three noise scenarios used for this analysis, at each of the permanent and temporary monitoring stations located south of JWA during the test period. Table 3-6 provides the predicted CNEL values at each of these stations in absolute terms. The "no project" column reflects the actual CNEL values at RMS 1, 2, 3, 4, 5 and 6 for the twelve months ending March 31, 1992, and predicts by modeling the values for the equivalent time period for the temporary monitoring stations, RMS 21, 22 and 24, and TMS 23, 25, 26, 27 and 28. Consistent with the information presented in Table 3-16, the proposed project (Alternative 1) produces higher CNEL values than Alternative 2 (the 800 foot procedure) at the Santa Ana Heights monitoring stations, RMS 1, 2 and 3, and lower CNEL values at all monitoring stations, further south, temporary and permanent.

Table 3-7 reflects the relative change from the "no project" CNEL values which would result under the principal alternatives examined in this noise analysis. Consistent with the other data, this table shows that the greatest increases in CNEL values south of the airport would occur under "*Scenario B,*" which assumes 39 MD-80 ADDs. Under the "*Base Case Scenario*" (6.0 MAP - current conditions) and "*Scenario A*" (8.4 MAP - 13.3 MD-80 ADDs), significant CNEL increases occur at RMS 1, 2 and 3 (Santa Ana Heights and the Anniversary Tract) under both the proposed project (Alternative 1) and Alternative 2 (the 800 foot procedure), although the increases are smaller under Alternative 2. On the other hand, the proposed project results in significant *reductions* in CNEL levels compared to the "no project" case at RMS 23, 24 and 25 under both the "*Base Case Scenario*" and "*Scenario A,*" while Alternative 2 (the 800 foot alternative) produces significant CNEL reductions only at RMS 23 (-1.5 dB CNEL), and then only under the "*Base Case Scenario.*"

These tables, then, confirm the basic conclusions of the noise analysis performed for the proposed project. Those conclusions are that, generally, compared to pre-demonstration CNEL levels:

> *The Proposed Project (Alternative 1)* would produce significantly higher CNEL levels in Santa Ana Heights (RMS 1, 2 and 3) but would result in reductions, in some cases significant, at monitoring stations further south compared to the "no project" case.
>
> *Alternative 2 (the 800 Foot Alternative Case)* would also produce significant increases in CNEL levels at RMS 1, 2 and 3, although not as great as the proposed project (Alternative 1). It would not, however, produce the significant CNEL reductions at RMS 23, 24 and 25; and at all other monitoring stations south of RMS 3, this alternative would result in greater CNEL increases, or smaller CNEL decreases, than any comparable scenario under the proposed project (Alternative 1).

3.1.4.3 NOISE COMPLAINT DATA PRIOR TO AND DURING THE NOISE LEVEL DEMONSTRATION

While noise complaint data may not be indicative of the attitudes of the community as a whole, the complaint data does provide an indication of the perceptions in the community regarding changes in noise that occurred during the demonstration. They also reflect, understandably, the general concern of the community regarding any possible changes to the regulatory status quo at JWA. The JWA Noise Abatement Office logs and publishes noise complaint data. A summary of these data are presented in Table 3-8 (and also in Appendix D, Table 26). It is important to note that on

TABLE 3-8

JOHN WAYNE AIRPORT
SUMMARY OF CALLS TO NOISE ABATEMENT OFFICE
(APRIL 1991 THROUGH DECEMBER 1992)

TIME PERIOD	4/91 - 6/91	7/91 - 9/91	10/91 -12/91	1/92 - 3/92	4/92 - 6/92	7/92 - 9/92	10/92 - 12/92
COMMUNITY							
Tustin/Orange	28	70	24	52	91	63	35
Santa Ana	24	34	18	16	49	31	18
Santa Ana Heights	33	21	15	28	108	281	59
Costa Mesa	43	8	14	25	96	129	46
Westcliff	173	165	54	61	355	637	149
Eastbluff	71	153	38	40	514	587	281
Balboa/Corona del Mar	314	314	139	124	500	301	109
Other	31	48	25	18	37	39	22
TOTAL FOR PERIOD	717	813	327	364	1,750	2,068	719

April 1, 1992, some aircraft began demonstration procedures. These included two of the MD-80 operators and one of the Boeing 737 operators. Beginning on July 1, 1992, all scheduled commercial air carrier aircraft flew demonstration procedures. On October 1, 1992, the procedures that were noisiest and not candidates for consideration for long term use at JWA were eliminated, and all aircraft flew one of the more likely candidate procedures - in most cases either an 800 or a 1500 foot power cutback procedure.

3.1.5 MITIGATION MEASURES

This section describes possible mitigation measures which could reduce the noise effects of increasing the maximum permitted noise levels at RMS 1, 2 and 3. The proposed mitigation measures include various actions and conditions described in this section, as well as certain land use mitigation measures discussed in Section 3.2 of this EIR.

Maximum Permitted Noise Levels.

The County's continuing analysis of the noise level demonstration data indicates that maximum permitted noise level increases at RMS 1, 2 and 3 can, in some cases, be set below the levels originally proposed for the project and reflected in the Notice of Preparation. The proposal to lower the maximum permitted noise levels for certain monitoring stations and classes of commercial aircraft below the NOP proposed limits is related to the proposal to extend the data collection period and limit the initial term of the Access Plan amendments, which is discussed later in this section. A comparison between the noise levels proposed in the original project and the NOP for Class A Aircraft, and the modified increased noise levels proposed in this document, is reflected in Table 3-9. In

TABLE 3-9

COMPARISON OF PROJECT MITIGATED MAXIMUM PERMITTED NOISE LEVELS

Class A Average Daily Departures (ADDs) (dB SENEL)

Remote Monitor Station	Pre-Test Monitor Limits	Notice of Preparation Limits	Modified Proposed Limits	Noise Level Increases (Modified - Pre-test Limits)
RMS 1	100.8	103.0	101.5	.7
RMS 2	100.9	103.0	101.0	.1
RMS 3	98.5	101.5	100.5	2.0

addition, further analysis of the noise test data has caused the County to propose modified maximum permitted noise levels for Class AA Aircraft, as well. The original proposed noise levels and the modified project noise levels are reflected in Table 3-10. Finally, the modified Class E maximum permitted noise levels are as reflected in Table 3-11.

TABLE 3-10

COMPARISON OF PROJECT MITIGATED MAXIMUM PERMITTED NOISE LEVELS[69]

Class AA Average Daily Departures (ADDs) (dB SENEL)				
Remote Monitor Station	Pre-Test Monitor Limits	Notice of Preparation Limits	Modified Proposed Limits	Noise Level Increases (Modified - Pre-test Limits)
RMS 1	90.3	94.5	94.0	3.7
RMS 2	90.4	94.5	94.0	3.6
RMS 3	89.5	91.5	91.0	1.5

Establishment of Class A Limits at RMS 21, 22, 24 and 6

In order to ensure compliance with the intent of the Access Plan modifications, the County is also proposing, as project mitigation, to establish maximum permitted noise levels for Class A aircraft at RMS 21, 22, 24 and 6.[70] This is an important project

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[69] The Class AA maximum permitted noise levels at the remaining departure monitoring stations, RMS 4, 5 and 6, would remain at the present PHASE 2 ACCESS PLAN limits of 89.5 dB SENEL.

[70] The restrictions on aircraft types which may use the airport for scheduled commercial purposes will be controlled, still, by the maximum permitted noise levels at RMS 1, 2 and 3. However, because the old FAA approved procedures, together with the 3000 foot departure ceiling, made establishing Class A noise limits at monitoring stations south of Santa Ana Heights largely superfluous, it is not clear that that will be the case with the use of new departure procedures, some of which are yet to be defined by the carriers. Further, the 1500 foot power cutback procedure designed by Boeing for the 737 and 757 aircraft using JWA is intended to optimize noise reduction south of the line defined by RMS 21 and 22. Establishing Class A limits at the monitoring stations south of Santa Ana Heights will ensure that the intent of the County, the manufacturers, the carriers and the community are realized.

mitigation measure intended to ensure realization of the intended benefits of the new procedures analyzed in this EIR. The proposed limits are reflected in Table 3-12.

TABLE 3-11

COMPARISON OF PROJECT MITIGATED MAXIMUM PERMITTED NOISE LEVELS[71]

Class E Average Daily Departures (ADDs) (dB SENEL)				
Remote Monitor Station	Pre-Test Monitor Limits	Notice of Preparation Limits	Modified Proposed Limits	Noise Level Increases (Modified - Pre-test Limits)
RMS 1	86.8	92.5	92.5	5.7
RMS 2	86.9	92.5	92.5	5.6
RMS 3	86.0	89.5	89.0	3.0

TABLE 3-12

PROPOSED CLASS A NOISE LIMITS FOR MONITORING STATIONS 21, 22, 24 & 6 (dB SENEL)

Remote Monitoring Station	Proposed Class A Maximum Permitted Noise Levels
RMS 21	93.5
RMS 22	93.5
RMS 24	95.5
RMS 6	92.0

[71] Again, the existing Class E noise limits for monitoring stations south of Santa Ana Heights, which is 86.0 dB SENEL, would not be changed by this project.

Extended Noise Demonstration Period and Limitation on Access Plan Amendments

Although substantial data was collected during the noise demonstration period from April 1, 1992, through December 1992 for incorporation into this environmental analysis, the participants to the demonstration process have not reached complete consensus on the maximum permitted noise level adjustments necessary to accommodate the proposed change in FAA policy, as reflected in AC 91-53A. This is particularly true with respect to the views of McDonnell-Douglas and a few of the MD-80 operators regarding the maximum permitted noise levels for Class A Aircraft at RMS 1 and 2. The definition of maximum permitted noise levels for Class A Aircraft is controlled by the MD-80 series aircraft. All other aircraft types operating at JWA as Class A Aircraft can operate well below the MD-80 noise limits.

McDonnell Douglas (and a few MD-80 operators) believe that the maximum permitted noise levels for Class A Aircraft need to be set at 102.5 dB SENEL at RMS 1 and 2 in order to allow a continuation of the pre-demonstration "missions" (*i.e.*, "market segments") operated by the MD-80 aircraft from JWA. The controlling market appears to be TWA's flights to St. Louis, although Alaska Airlines has also expressed concern regarding its use of the MD-80 in the JWA-Seattle market.[72]

While the County is reasonably comfortable with its analysis of the noise levels necessary to accommodate the pre-demonstration operations of MD-80 aircraft at JWA, the noise level data developed during the demonstration is capable of different interpretations because of the numerous variables that can affect aircraft performance and noise levels. Since modification of the maximum permitted noise levels is a significant political controversy, the County will consider implementing the Access Plan amendments proposed by this project for the 1993-94 Plan Year only,[73] with an automatic "sunset" provision which would return the Access Plan limits to the pre-project (or "no-project") condition unless the Board of Supervisors takes affirmative action to extend the amendments. The purpose of this modification to the project is twofold: First, the County wishes to minimize the increases in permitted noise levels in the noisiest class of aircraft - Class A Airplanes - and particularly the MD-80, which controls the definition of Class A noise limits.

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[72] Non-stop flights to St. Louis were the longest flight segment regularly operated by commercial carriers from JWA during the period preceding the noise level demonstration. St. Louis is TWA's principal hub closest to the west coast, and TWA does not presently have other Stage 3 aircraft types which it would normally operate in a domestic medium-haul market, such as JWA-St. Louis. The principal MD-80 operator at JWA at the present time is American Airlines. Because American uses this aircraft in a wide range of short-haul and medium-haul markets, and because enforcement of the Access Plan noise limits for scheduled commercial operators is on a quarterly, energy average, basis, American does not believe that it will have any difficulty meeting the County's proposed modified Class A noise limits.

[73] As previously stated, the Access Plan is administered on a "Plan Year" basis, which runs from April 1 of each year to March 31 of the succeeding year.

If experience during the 1993-94 Plan Year indicates that the Class A noise limits at RMS 1 and 2 need to be slightly higher than 101.5 and 101.0 dB SENEL, respectively, the County could then consider raising the noise limits by the amount necessary to allow the pre-demonstration operations of the MD-80 to continue unaffected by the FAA's adoption of AC 91-53A. Environmental analysis is provided in this EIR on Class A noise levels at RMS 1 and 2 as high as 103.0 dB SENEL (the NOP project noise levels). Therefore a full environmental analysis is provided in this document for a range of permitted Class A noise levels at RMS 1 and 2 which would include the McDonnell Douglas proposed limits of 102.5 dB SENEL at RMS 1 and 2.[74] Particularly since adoption of the Airport Noise and Capacity Act of 1990 ("ANCA") and the implementing regulations in FAR Part 161 (Title 14 of the Code of Federal Regulations, Sections 161.1 and following), *reducing* the maximum permitted Class A noise levels would present significant legal issues and potential administrative difficulties if the noise levels were initially set at 102.5 dB SENEL, as McDonnell Douglas has requested, and subsequent experience demonstrated that a noise level that high was not necessary. On the other hand, if, as the County continues to monitor the noise level data and work with the manufacturers, the air carriers, and the community, the County proposed noise levels at RMS 1 and 2 of 101.5 and 101.0 dB SENEL, respectively, is inadequate to reasonably allow the pre-demonstration MD-80 missions, then raising the limits slightly to accommodate those operations presents substantially fewer legal difficulties and uncertainties.

Equally important, this approach minimizes the community disruption and land use mitigation measures which will be required for this project. The County made important decisions in 1985 and 1986 regarding land use planning and mitigation in Santa Ana Heights. As discussed earlier, the noise level changes proposed by this project will not cause the 65 dB CNEL contours south of JWA to exceed the area anticipated to be within that contour in EIR 508/EIS for either the Year 1990 or the Year 2005; in fact, it will probably remain smaller than the EIR 508/EIS "project case contour," although the contour will increase in size from its pre-demonstration condition.[75] The County-proposed noise levels minimize the noise effects on the Santa Ana Heights community caused by the proposed project, particularly with respect to the noisiest class and types of aircraft.

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[74] If it is later determined that it is necessary to set the Class A maximum permitted noise levels slightly higher than proposed in this EIR, the extent of any additional environmental analysis or documentation necessary to implement such an increase would depend upon then existing circumstances and would have to be evaluated by County staff, including the Environmental Management Agency, at the time any such possible modification appears to be necessary, if at all.

[75] The EIR 508/EIS "project case contour" for the Year 1990 appears as Figure 4.15-15 in EIR 508/EIS, and the "project case contour" for the Year 2005 appears as Figure 4.15-17. These contours formed the basis for defining the County's land use mitigation for Santa Ana Heights under the Land Use Compatibility Program adopted in 1986 in connection with adoption of the 1985 Master Plan for JWA by the Board of Supervisors.

Because of the disruptive nature of major land use conversion in Santa Ana Heights and the impact of eliminating further residential uses in that area on the people owning and living in those properties, the County strongly prefers to continue to control noise levels as much as feasible and to minimize the extent to which residential land uses are further affected by the proposed project. Specifically, the County wishes to avoid a mandatory residential acquisition program with all of the attendant impacts on local communities and residents. Based upon community surveys performed as part of this environmental analysis, there clearly is no strong sentiment in the affected areas of Santa Ana Heights for mandatory County acquisition programs as mitigation for the proposed project. The County, of course, certainly has no desire to force such a program on an unwilling community. By acting to minimize the extent of noise level increases in Santa Ana Heights resulting from the proposed project, the County can also mitigate the project to a level below the level of significance (assuming adequate federal funding) without mandatory fee acquisition mitigation programs.[76] By establishing single event noise levels which maintain the CNEL contours within the contours projected in EIR 508/EIS, it should be possible to allow continued residential uses in Santa Ana Heights. Naturally, if further noise level increases are required, as suggested by McDonnell Douglas, additional land use mitigation measures will have to be evaluated and considered at that time. These issues are also discussed in Section 3.2 of this EIR.

Finally, this is an important step to assure the community south of JWA that these changes are really necessary. Although FAA is expected to adopt AC 91-53A and to make the air carrier NADPs a part of the air carrier operating specifications (thereby giving the restrictions on their operations regulatory effect), the FAA processes may not be fully completed when the amendments proposed by this project are made effective (April 1, 1993). This modification to the project ensures that if FAA does not, for some unforseen reason, adopt AC 91-53A, that the increased noise levels proposed by this project do not become permanent changes to the Access Plan.

Continuation of the Noise Level Demonstration

The County proposes to continue its collection and analysis of noise level data from air carrier operations at JWA during 1993 in order to verify the conclusions reached during the 1992 demonstration period. This measure will allow all of the interested parties to continue their analysis to verify that the maximum permitted noise limits proposed by this project are adequate to preserve the pre-demonstration operational status quo at JWA. Since any further adjustments to the maximum permitted noise levels would require express and affirmative action by the Board of Supervisors, public review and input to the permanent adoption of Access Plan amendments will be possible. This action will also

[76] *See,* however, the discussion in Section 3.2.7.

provide additional information to allow the interested parties to determine if further Access Plan amendments are actually required as part of the FAA's adoption of AC 91-53A.

Runway Extension

One possible mitigation measure which might offset the increases in single event noise levels includes the lengthening of the main runway at JWA (Runway 19R/O1L) as far to the north as practicable. The ultimate physical limiting factor to this extension, of course, is I-405. It may be possible to extend the existing runway approximately 750 to 1000 feet to the north. The landing threshold would remain unchanged, creating what is known in the aviation community as a "displaced threshold."[77]

Shifting the beginning of the aircraft departure roll to the north would result in aircraft being higher over the communities to the south than at present. The benefits of this additional altitude would be greatest near the airport and under the flight pattern, and would diminish to the "sidelines" and further south than Santa Ana Heights because the relative increase in altitude between current conditions and with an extended runway would decrease as the aircraft travels down its departure path. The potential noise benefits of this possible mitigation measure were determined through computer modeling. Exhibit 3-22 shows the CNEL contours with a 750 foot runway extension, while Exhibit 3-23 shows the contours assuming a 1000 foot runway extension. Table 3-13 shows the CNEL values at the departure monitoring stations for the proposed project (Alternative 1)/*Base Case Scenario* (6.0 MAP service level).

There are, however, practical engineering difficulties associated with this potential mitigation measure. The location of various navigational aids, the presence of a settlement basin, and a high water table are all factors which may make this mitigation measure impractical or infeasible. Therefore, the County has selected a consulting firm to perform an engineering feasibility study of extending the runway the maximum distance to the north. 750 and 1000 foot extensions are the two primary alternatives to be investigated, although extensions at other distances would be considered depending upon the results of the feasibility study. However, until the engineering feasibility study is completed, it can not be known whether any extension is feasible and, if so, how much of an extension can actually be constructed.

The report on the feasibility study is due to be delivered to the County in the late summer of 1993. Following delivery of the feasibility study, the County will assess the

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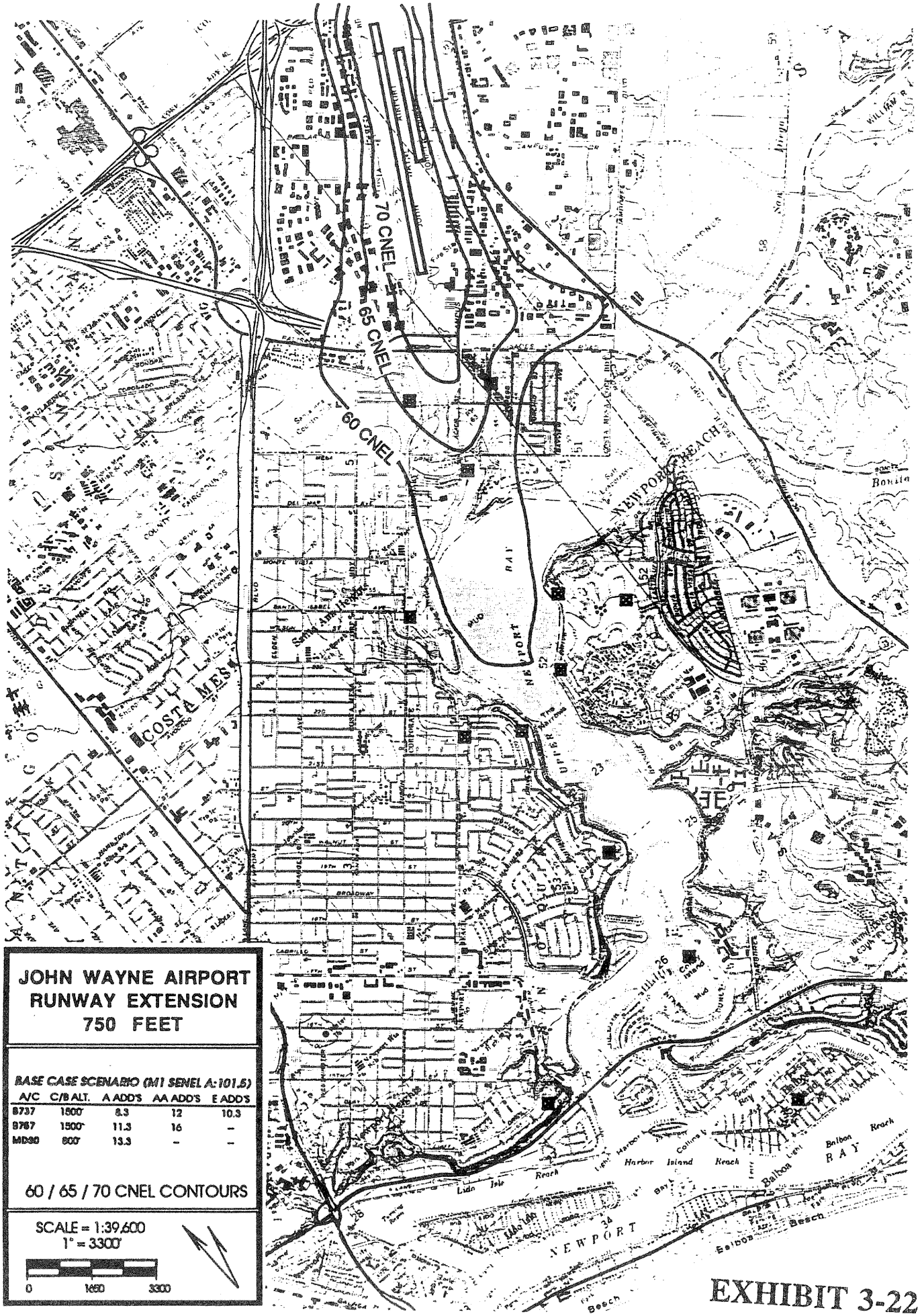
[77] In practical terms, this means that there would be no alteration to approach patterns or procedures for landings on Runway 19R.



JOHN WAYNE AIRPORT
RUNWAY EXTENSION
750 FEET

BASE CASE SCENARIO (M1 SENEL A: 101.5)

A/C	C/B ALT.	A ADD'S	AA ADD'S	E ADD'S
B737	1500'	8.3	12	10.3
B767	1500'	11.3	16	–
MD80	800'	13.3	–	–

60 / 65 / 70 CNEL CONTOURS

SCALE = 1:39,600
1" = 3300'

0 1650 3300

EXHIBIT 3-22

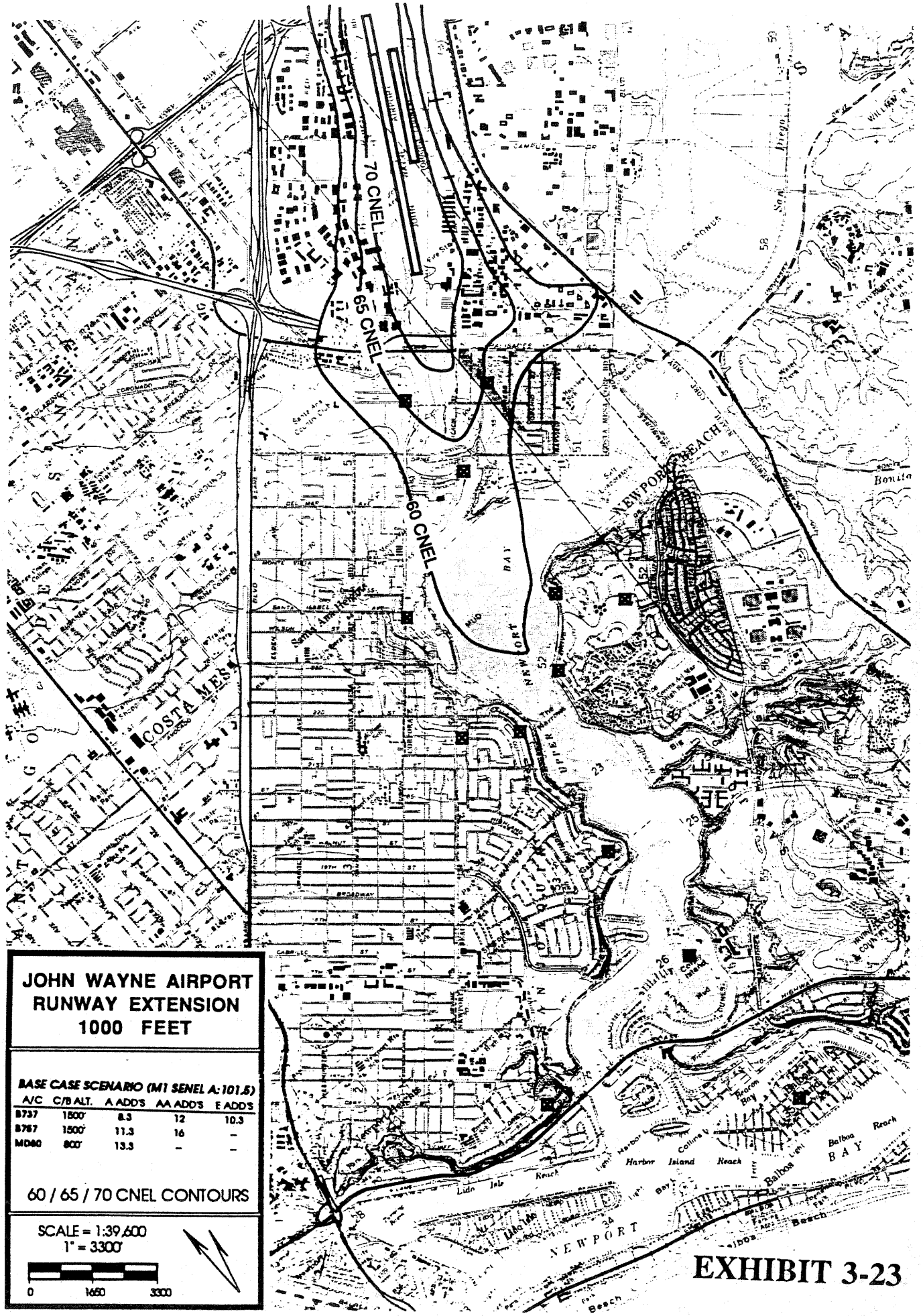

70 CNEL
65 CNEL
60 CNEL
NEWPORT BEACH
COSTA MESA
NEWPORT BAY
JOHN WAYNE AIRPORT
RUNWAY EXTENSION
1000 FEET
BASE CASE SCENARIO (M1 SENEL A: 101.5)
A/C C/B ALT. A ADD'S AA ADD'S E ADD'S
B737 1500' 8.3 12 10.3
B757 1500' 11.3 16 –
MD80 800' 13.3 – –
60 / 65 / 70 CNEL CONTOURS
SCALE = 1:39,600
1" = 3300'
0 1650 3300

EXHIBIT 3-23

feasibility of such a project and prepare a refined estimate, if necessary, of the potential noise benefits to be realized by a runway extension to the maximum feasible length. In addition, ultimate implementation of any runway extension would be an extremely expensive project, and federal AIP funding would be an essential element of any such project.

TABLE 3-13

CNEL VALUES AT DEPARTURE MONITORING STATIONS FOR 750 AND 1000 FOOT EXTENSIONS TO THE NORTH OF RUNWAY 19R

	Existing Runway (Table 3-6)	Lengthened Runway 19R (Extension)		Change in CNEL Level (Extension)	
RMS		**750 Feet**	**1000 Feet**	**750 Feet**	**1000 Feet**
1	67.5	66.2	65.7	-1.3	-1.8
2	65.9	65.0	64.5	-0.9	-1.3
3	65.4	64.5	64.5	-0.9	-0.9
4	55.0	54.8	54.4	-0.3	-0.6
5	51.3	51.1	51.1	-0.3	-0.3
6	55.9	55.7	55.8	-0.2	-0.1
21	57.8	57.4	57.3	-0.4	-0.5
22	56.0	55.7	55.5	-0.2	-0.5
23	58.9	58.5	58.5	-0.4	-0.4
24	59.4	59.1	58.9	-0.2	-0.5
25	57.8	57.6	57.5	-0.2	-0.3
26	46.6	46.5	46.3	-0.1	-0.3
27	46.9	46.9	47.0	0.0	-0.1
28	53.9	53.8	53.9	-0.1	-0.0

NOTES: All values are in dB CNEL.

This analysis assumes the "*Base Case*" operations scenario (6.0 MAP) and the proposed project (Alternative 1) maximum permitted noise levels.

More importantly, the community south of JWA has already expressed some concern that a runway extension could result in different aircraft types using JWA, and might result in *more* noise rather than less noise. Therefore, the County should not and will not commit to implementation of this particular potential mitigation measure until the engineering feasibility study has been completed and appropriate analysis and discussion with the community, FAA and the airport users has occurred to determine if, in fact, construction of a runway extension could be implemented in a manner which would *reduce* noise levels rather than increase them south of JWA. Because the County's only commitment at this time is to study and discuss the issue with affected parties, this mitigation measure has not been considered in determining whether the noise impacts of the proposed project have been mitigated to a level below the level of significance.

Reduction of Class AA and Class E Maximum Permitted Noise Levels at Monitoring Stations South of RMS 3

The City of Newport Beach, SPON and AWG have suggested as mitigation for the proposed project that the maximum permitted noise levels for Class AA and Class E aircraft be *lowered* at monitoring stations south of RMS 3. This suggestion is made even though the existing limits for those aircraft at each of the monitoring stations, 89.5 dB SENEL and 86.0 dB SENEL, respectively, would not be changed by the proposed project. AWG and SPON point out that, in fact, most of the Class AA and Class E aircraft, if they can achieve 89.5 or 86.0 dB SENEL at, for example, RMS 21 and 22, should be quieter as they proceed further south down the flight path, and that these expected reductions should be institutionalized by regulatory action of the County.

The 89.5 dB SENEL and 86.0 dB SENEL values for Class AA and Class E aircraft have a historical basis and significance. As discussed throughout Section 4.15 of EIR 508/EIS, 89.5 dB SENEL was the historical regulatory threshold at JWA for controlling the number of scheduled commercial flights. In other words, before adoption of EIR 508/EIS and its related mitigation measures, including the access plans, a scheduled commercial operator could operate an unlimited number of aircraft from JWA if they could operate at all departure monitoring stations at or below 89.5 dB SENEL on a quarterly average basis. The decision to regulate "Class AA" aircraft was a mitigation concession made as part of the 1985 Master Plan project.

Since the County proposed to implement regulation of scheduled commercial aircraft operating below 89.5 dB SENEL at departure monitoring stations during the 1985 Master Plan process, and in considering EIR 508/EIS and its mitigation measures, including the access plans, the County had to establish a new regulatory "threshold" below which the noise level was deemed to be sufficiently low that regulation was not justified. This led to the definition of Class E aircraft as aircraft which can operate at or below 86.0 dB SENEL at the departure monitoring stations. Under EIR 508/EIS, and under both the PHASE 1 and the PHASE 2 ACCESS PLANS, the number of Class E operations is limited only by the MAP

limit of 8.4 MAP. These regulatory concepts were included and memorialized in the settlement stipulation.

The 86.0 dB SENEL regulatory threshold is also significant in other respects. First, it is a condition of the PHASE 2 ACCESS PLAN (as with all prior regulations of the County) that commuter operators must operate with unregulated (*i.e.,* Class E) aircraft. Second, 86.0 dB SENEL (measured on a single event rather than an averaged basis) is also the curfew exemption limit for general aviation aircraft, based upon the analysis and conclusion reached during the 1985 Master Plan process that this was a noise level not likely to cause significant annoyance or disruption of normal activities to a reasonable man or woman. Therefore, further reduction of the maximum permitted noise levels at monitoring stations south of JWA for Class AA and Class E aircraft would require an extensive restructuring of the PHASE 2 ACCESS PLAN with respect to air carrier operations. Further reduction of Class E maximum permitted noise levels might also require significant revisions to the County's ordinances governing commercial and general aviation operations at JWA. Such revisions would raise significant legal issues with respect to the County's overall regulation of operations at JWA, including commuter airline and general aviation operations.

Having reached agreement with the community in 1985 on an appropriate single event noise level regulatory threshold, the County is reluctant to reopen the subject for a number of reasons: First, the County does not have any information which would cause it to believe that 86.0 dB SENEL is not - in absolute terms - still an appropriate and sufficient regulatory threshold. Second, since reducing existing maximum permitted noise limits would necessarily be a controversial subject which may raise significant policy and legal issues, it is an action which requires appropriate study and opportunities for a full range of public input, both from the local communities as well as airport users and the FAA.

Nevertheless, the City, SPON and AWG have expressed the concern that if the Board of Supervisors selects the proposed project (Alternative 1) for implementation, the air carriers might select NADPs using power cutback departure procedures which initiate the power reduction below an altitude of 1500 feet, one of the premises of the proposed project for certain of the aircraft types using JWA. The advantage to the carriers of pursuing this approach would be that they could still meet the maximum permitted noise levels of the proposed project (Alternative 1) at RMS 1, 2 and 3 but at higher gross weights than anticipated if a 1500 foot procedure were used by those operators. The resulting disadvantage to Newport Beach would be that the noise reductions south of RMS 21 and 22 expected from the use of a 1500 foot power cutback procedure would not be realized.

The County acknowledges the concerns expressed by the City, SPON and AWG on this issue; and County staff has had a number of discussions with representatives of those parties regarding this issue. Essentially, the settling parties feel that, while an increase in noise levels at RMS 1, 2 and 3 may be required as a result of the expected change in FAA policy on noise abatement departure procedures, those changes should only allow the County to maintain the pre-demonstration operational capacity of JWA consistent

with the reasonable expectations of the parties at the time they entered into the 1985 1985 Settlement Agreement: it should not be, in their view, an occasion to allow the air carriers to significantly increase their operational capacity (and the related noise level increases, if any) beyond the capacity levels anticipated in 1985.

Under *current* circumstances, the County does not believe that immediate implementation of this mitigation measure is necessary, reasonable or feasible.[78] First, the uncertain effects of such an action on commuter and general aviation operations, the significant public policy issues, and the potentially significant legal issues all would require extensive analysis. Second, the County believes that a change of that magnitude to the existing 1985 Settlement Agreement and the PHASE 2 ACCESS PLAN should be undertaken only in the context of a fully public process where all interested and affected parties have an opportunity for input on the formulation and implementation of any such action. That type of process cannot occur within the time frame necessary for action by the County under the circumstances leading to the preparation of this EIR. Third, this action might not be necessary: if the Board of Supervisors selects Alternative 2 for implementation, this mitigation measure would be irrelevant and inappropriate since the maximum permitted noise levels would be set at RMS 1, 2 and 3 at levels which would accommodate *only* an 800 foot power cutback procedure, the minimum which will be permitted by AC 91-53A, which means that the air carriers would not be able to take advantage of increased maximum permitted noise levels at RMS 1, 2 and 3 to add gross takeoff weight; and the noise levels south of RMS 3 would, in essence, be controlled almost entirely by the maximum permitted noise levels set at RMS 1, 2 and 3. Finally, the recommendation made earlier that the Board adopt as a mitigating condition for implementation of the proposed project (Alternative 1) or Alternative 2 that the maximum permitted noise level increases only be implemented through March 31, 1994, initially, allows the affected and interested parties adequate time to discuss this issue further and to use the additional noise level information which will be developed in the interim to develop a data base which can properly be used to assess the effects of this proposed action on air carrier, commuter and general aviation operators.

In summary, the County recognizes and acknowledges the concerns of the community south of JWA regarding this project. The County also understands their desire to ensure that any benefits they receive as a result of this project are insured by making the projected single event noise levels at monitoring stations south of RMS 3 regulatory so that

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[78] The County's determination in this instance that this suggested mitigation measure is *presently* infeasible and cannot reasonably be implemented in the context of this specific proposed project *does not* mean that further exploration and consideration of this concept is not worthwhile. The County also recognizes the legitimate concern of the City, SPON and AWG with respect to the possible air carrier response (in designing their NADPs) to the adoption of the proposed project (Alternative 1) considered by this EIR. However, as discussed below, the County *does* propose continuing to evaluate this suggestion and discussing it with appropriate parties during 1993 as part of an ongoing dialogue between the Settling Parties regarding the terms of the Settlement Agreement.

the air carriers do not operate their aircraft in an insensitive manner once they have ensured that they can meet the maximum permitted noise level of 89.5 or 86.0 dB SENEL, as appropriate. Therefore, although there are serious questions regarding the reasonableness and feasibility of this mitigation proposal which prevent it from being adopted simultaneously with this project, the County will explore this issue further with the City of Newport Beach, SPON and AWG. Those parties have informally indicated to the County a desire to negotiate with the County an extension of the Settlement Stipulation and Agreement beyond the Year 2005, when the agreement is presently scheduled to expire. Airport staff has indicated a willingness to hold such discussions. Therefore, airport staff is recommending to the Board of Supervisors that, as part of the mitigation for this project, airport staff be directed to hold discussions and negotiations with the parties to the settlement stipulation regarding a possible extension of the 1985 Settlement Agreement during 1993, and that this issue be a topic of discussion between the County and the other parties.

Limitation on the Maximum Permitted Number of MD-80 ADDs

Newport Beach, SPON and AWG have also suggested as mitigation for this project that the County take regulatory action to distinguish between Class A ADDs operated by the MD-80 series aircraft, and Class A ADDs operated with other aircraft types, such as the Boeing 737 and 757 and the Airbus A-320. Essentially, the concept is to fix the number of MD-80 ADDs at the current utilization level of approximately 13.3 ADDs, set the proposed noise limits at RMS 1, 2 and 3 as proposed in the proposed project (Alternative 1) to accommodate those 13.3 Class A ADDs, and then make all other Class A ADDs subject to maximum permitted noise levels *lower* than currently permitted. No carrier would be permitted to add MD-80 flights at JWA beyond those currently being operated by some of the carriers. In effect, this proposal would create a new, intermediate class of ADDs which, in terms of maximum permitted noise levels, would be someplace between Class A and Class AA ADDs, as those ADDs are currently defined in the PHASE 2 ACCESS PLAN.

The significance of the community's concern on this issue is reflected in Tables 3-6 and 3-7. A comparison between the "*Scenario A*" and the "*Scenario B*" on those charts reflects, essentially, the difference between 39 MD-80 ADDs and 13.3 MD-80 ADDs at a full service level of 8.4 MAP. In some cases, the difference is greater than 2.0 dB CNEL. While the County believes that present implementation of this proposed mitigation measure is not reasonable or feasible in connection with this project, it does understand the community's concerns on this issue and, as with the previous proposed mitigation measure, airport staff will recommend to the Board of Supervisors that the Airport Director be given authority to discuss this issue further with interested parties as part of the proposed discussions between the County, the City, SPON and AWG regarding a possible extension of the 1985 Settlement Agreement.

As with the other mitigation suggestion made by the City, SPON and AWG, this proposal raises serious public policy questions. It also raises legal issues which would have to be addressed by the affected parties. For example, it must be noted that the County and the community strongly encouraged the airlines to introduce the MD-80 into service at JWA in the early 1980s. These are expensive aircraft and have a normal useful life of at least 20 years. There are serious questions as to whether it would be reasonable for the County, under these circumstances, to limit the ability of the carriers to use aircraft they were strongly encouraged to purchase less than ten years ago.

Implementation of this proposal would also involve difficult and complex questions of equity among the carriers. For example, if the County "froze" current MD-80 operations, those operators which have continued to use the MD-80 heavily in JWA operations would be protected, while other airlines would not have the flexibility to use that aircraft at JWA. This could reward the operators which are heavily committed to the MD-80 at JWA at the present time, while reducing the scheduling flexibility of those carriers now operating quieter aircraft. It could also be counter productive. For example, a carrier currently using MD-80 aircraft at JWA might, at some time in the future, substitute other, quieter aircraft; but if that carrier knows that the *opportunity* to operate the MD-80 at JWA in the future, even for a limited time, might be lost if the substitution is made, the carrier might actually decided to retain the MD-80 in JWA service.

Present implementation of this proposal would also require significant amendments to a number of important provisions of the PHASE 2 ACCESS PLAN. In addition to redefining the maximum permitted number of Class A ADDs and defining an entirely new class of ADD, the Access Plan would have to be amended to address difficult allocation questions. For example, if a carrier currently using MD-80 aircraft at JWA were to cease JWA service (and thus terminate its ADD allocation), could those Class A ADDs be reallocated to an operator which wishes to use the ADD with MD-80 equipment? Would the ADD *have* to be allocated to an MD-80 user? Would incumbent operators desiring to use the ADD for MD-80 operations be given preference?

These are all legitimate but difficult questions, and they only define the beginning of what would necessarily be an extended public discussion before such fundamental changes to the PHASE 2 ACCESS PLAN could be made. It is not feasible to have the type of public discussion of this issue which the County believes should be undertaken for any significant amendments to the PHASE 2 ACCESS PLAN.

Nevertheless, as noted earlier, airport staff considers the question of aircraft types and the relationships between Class A, Class AA and Class E aircraft to be a legitimate subject of discussion between the Settling Parties in the context of any negotiations to extend the 1985 Settlement Agreement. Under present circumstances, and in the specific context of this proposed project, implementation of this proposed mitigation

measure is unreasonable and infeasible.[79] However, airport staff will recommend to the Board of Supervisors that, as with the previous proposed mitigation measure, the issue of the relationship between, and definition of the different classes of ADD be a topic of discussion between the County and the other settling parties in any future negotiations regarding any possible extension of the 1985 Settlement Agreement.

3.1.6 Analysis Of Significance

Even with implementation of the mitigation measures proposed in this section, the proposed project (Alternative 1) would still result in significant single event and cumulative noise impacts in Santa Ana Heights (*i.e.,* at RMS 1, 2 and 3). South of RMS 3, there are no significant adverse noise impacts. Under Alternative 2, significant increases in the maximum permitted single event noise levels would occur at RMS 1 and 2, but not RMS 3 or any point further south of JWA (*see* Table 3-4). However, the CNEL increases would exceed the threshold of significance at RMS 1, 2 and 3 under any analysis scenario. (*See* Tables 3-6 and 3-7).

Although it is not feasible or reasonable to implement *operational* mitigation measures to mitigate these impacts to a level below the level of significance, additional mitigation measures proposed and discussed in Section 3.2 would, if adopted, funded and implemented - and subject to the matters discussed in Section 3.2.7 - reduce the noise impacts of the proposed project (Alternative 1) or Alternative 2 to a level below the level of significance.

3.2 Land Use

This section describes existing land uses surrounding the airport and the impacts of the proposed project on these uses. For purposes of this land use analysis, the area surrounding the airport has been classified into general and intensive study areas. The general study area includes those areas within a general airport sphere of influence south of JWA as shown on Exhibit 2-2. The intensive study area includes the area within the projected 65 dB CNEL noise contour as shown on Exhibit 3-24 (*Scenario A* assumptions).

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[79] It should be recognized that the proposed project is *not* the introduction of MD-80 aircraft into service at JWA - that environmental evaluation was conducted in the early 1980s - a circumstance which might make consideration of limiting MD-80 operations as project mitigation appropriate. It must also be remembered that the single event noise level increases resulting from the proposed project (Alternative 1) or from Alternative 2 are *not* significant for Class A Aircraft (*see* Table 3-4 and the accompanying text), including the MD-80. To the extent that any of the single event increases are "significant" for purposes of the analysis of this EIR under either the proposed project (Alternative 1) or Alternative 2, those increases occur in the Class AA and Class E ADD categories.

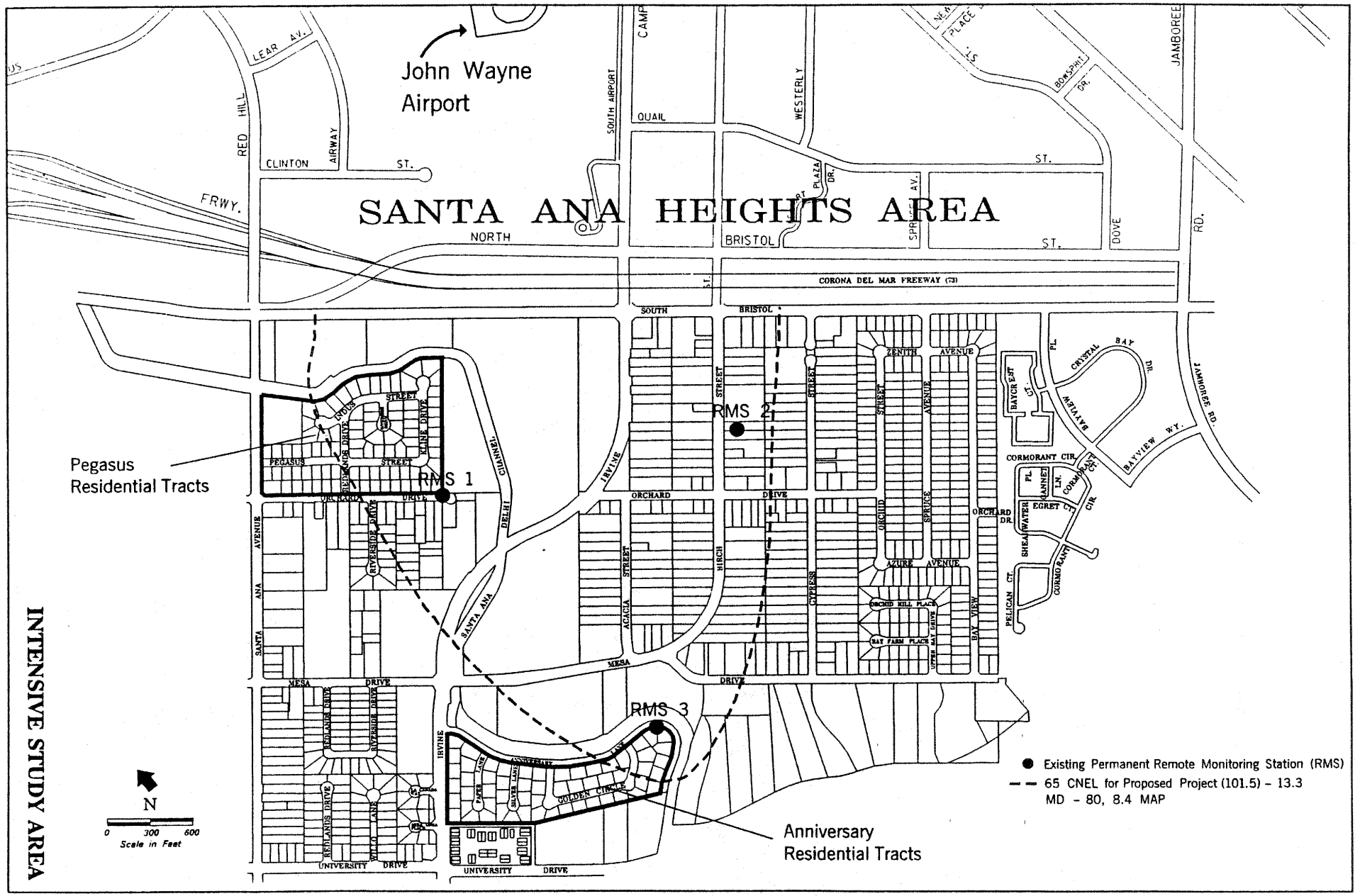

EXHIBIT 3-24

INTENSIVE STUDY AREA

This area includes Santa Ana Heights, the area south of JWA which is most likely to be subjected to land use impacts from the proposed project.

The proposed project does not have as a purpose any land use related actions in Santa Ana Heights or other areas of the County. Therefore, the principal purpose of this analysis is to identify more specifically the potential noise impacts of the proposed project on adjacent land uses; and to consider and analyze potential measures to mitigate those impacts. The analysis of this section of the EIR is closely related to the noise analysis in Section 3.1, and the two sections should be read and considered together.

3.2.1 Existing Conditions

John Wayne Airport

As noted earlier, the operational area of JWA occupies approximately 400 acres of land. The land uses on the airport property are primarily related to aviation activities. The predominant features of the airport include the airfield, the passenger terminal facilities, the general aviation facilities, automobile parking areas and the control tower. JWA also has various maintenance facilities and fire and rescue facilities on-site. All of these uses are compatible with airport operations and would not be impacted or adversely affected by the proposed project.

Planning Jurisdictions and Areas Surrounding JWA

A majority of the area surrounding JWA is within the Cities of Newport Beach, Costa Mesa, Santa Ana, Tustin, Irvine and the unincorporated areas of Orange County. There are a variety of existing land uses in the immediate vicinity of the airport. These include industrial, commercial, public/quasi-public, business/professional office, recreational and residential, as shown on Exhibit 3-25. The airport is located in an urbanized area; therefore, the majority of land surrounding JWA is already developed in accordance with the adopted land use plans and policies of the relevant local jurisdictions. Open space and recreational areas exist south of the airport and include the 752 acre Upper Newport Bay Ecological Reserve, the Upper Newport Bay Regional Park, and associated recreational opportunities.

The "Santa Ana Heights" area is located directly south of JWA. This area is generally bounded by the Corona Del Mar Freeway (SR 73) and Bristol Street to the north, Santa Ana Avenue to the west, Jamboree Road and the Upper Newport Bay to the east and the Upper Newport Bay Ecological Reserve and University Drive to the south. Santa Ana Heights is within unincorporated Orange County, the City of Newport Beach and the City of Costa Mesa, as shown on the general plan and zoning maps described below. *See* Exhibits 3-26 and 3-27.

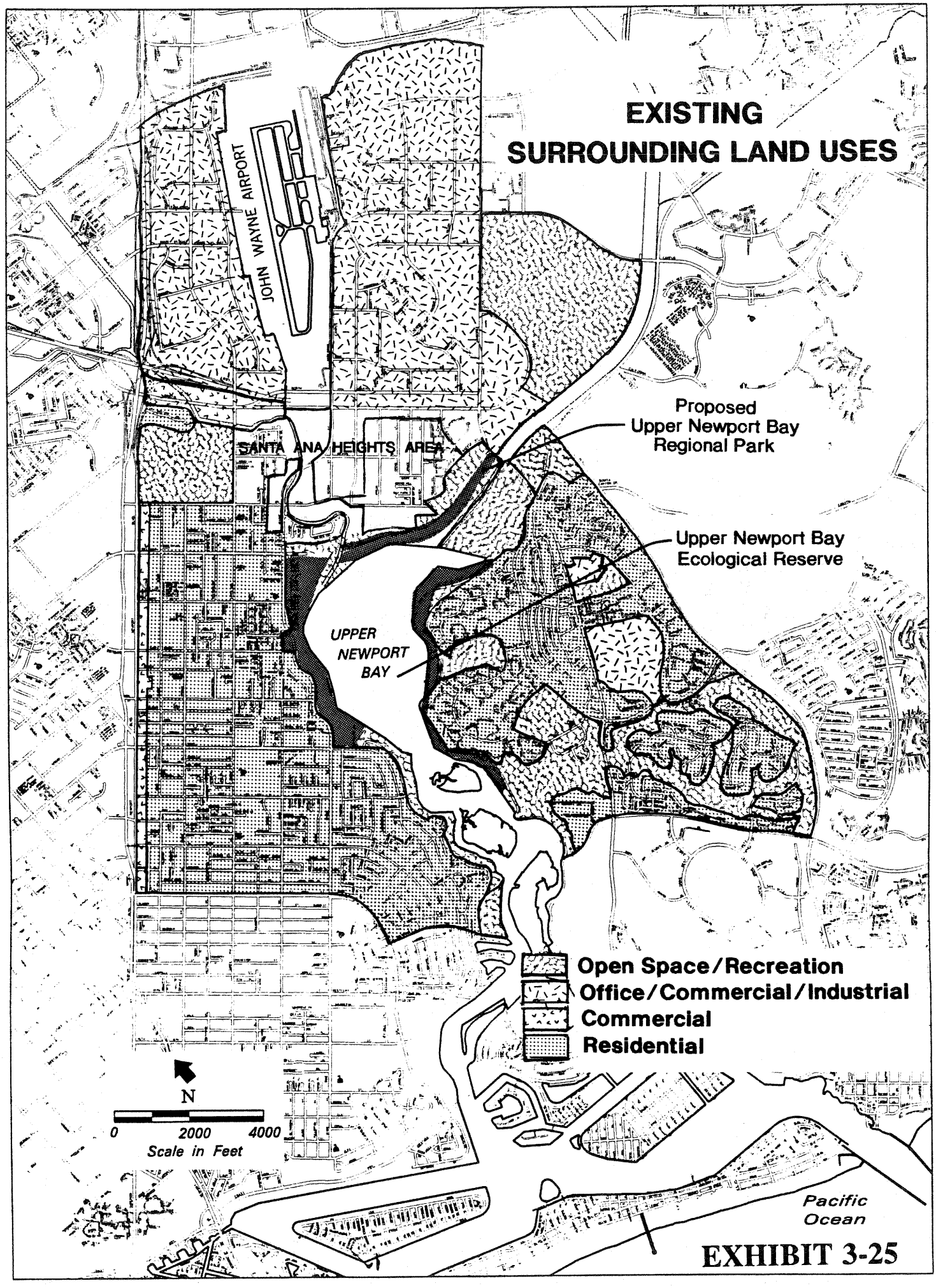
EXISTING
SURROUNDING LAND USES
JOHN WAYNE AIRPORT
SANTA ANA HEIGHTS AREA
Proposed
Upper Newport Bay
Regional Park
Upper Newport Bay
Ecological Reserve
UPPER
NEWPORT
BAY
Open Space/Recreation
Office/Commercial/Industrial
Commercial
Residential
N
0
2000
4000
Scale in Feet
Pacific
Ocean

EXHIBIT 3-25

As discussed in detail in Section 3.1, compared to pre-demonstration conditions, the increased single event and cumulative noise levels which would result from the proposed project ("Alternative 1") and from Alternative 2 would affect the Santa Ana Heights area and neighborhoods. Areas further south of JWA, and particularly those areas south of the line defined by RMS 21 and 22 (*see* Exhibit 3-1), are expected to benefit from noise level reductions in some areas if either the proposed project or Alternative 2 are adopted.[80] Areas to the north, and virtually all areas to the east and west of the airport would not be affected by the proposed project (or by Alternative 2). Therefore, the principal focus of this section is on the effects of the proposed project on land uses and neighborhoods in the Santa Ana Heights area. However, Section 3.2.2 contains an additional discussion of relevant land use planning policies of these jurisdictions. (*See also* the discussion in Section 2.6)

Santa Ana Heights

Background

Current land uses in Santa Ana Heights have been heavily influenced during the past seven years by the Land Use Compatibility Program ("LUCP") first adopted by the Board of Supervisors in February 1985 concurrently with the Board's adoption of the 1985 Master Plan for JWA and its certification of EIR 508/EIS. Specific implementation plans, including the Land Use Compatibility Plan and the Santa Ana Heights Specific Plan, refined the planned redevelopment and mitigation measures and activities for the Santa Ana Heights Area. These land use plans and programs were developed and implemented as mitigation measures for the 1985 Master Plan project for JWA and included a wide array of land use strategies to enhance the compatibility of land uses in the Santa Ana Heights area with operations from JWA.

To a large degree, the final form of the adopted Compatibility Plan represented a compromise among landowners and residents in the Santa Ana Heights area who, in 1985, had different goals and objectives with respect to the definition of future permitted land uses, and land use mitigation measures, evaluated in connection with consideration of the 1985 Master Plan and EIR 508/EIS. The final land use "scenario" selected for implementation by the Board in February 1985 contemplated that the "core area" of Santa Ana Heights - the area under and immediately surrounding the nominal flight track for air carrier departures on Runway 19R - be converted (to the extent necessary) from residential to commercial and business park uses. Pre-existing residential areas in the westerly and easterly portions of Santa Ana Heights were retained as residential uses, but were offered both acoustical treatment and a limited purchase assurance program as mitigation measures for the 1985 Master Plan project.

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[80] *See* Tables 3-6 and 3-7, above.

In addition, the County adopted a redevelopment project area for Santa Ana Heights.[81] In 1985 and 1986 when the Board approved the relevant plans and programs for Santa Ana Heights, there was an expectation that market forces would have a significant effect in implementing the land use conversions in the core area of Santa Ana Heights, assisted by the regulatory authority and financing capacity of the County and the Development Agency. However, the recession of the past number of years, and the substantial impact the recession has had on commercial and business park vacancies in existing business related buildings in Orange County generally, including areas around JWA, has significantly and adversely affected the market value of property in the Santa Ana Heights area for commercial or business park uses. There are a number of current residential property owners in the areas of Santa Ana Heights contemplated for redevelopment as commercial or business park uses who have been unable in recent years to find buyers for their properties because of the unfavorable market conditions for commercially zoned property in the general study area.

Current Land Uses

The current land uses in Santa Ana Heights include multi-family and single-family residential, business park, commercial and recreational. The current general plan designations for the property are shown on Exhibit 3-26. The current zoning designations for the property are shown on Exhibit 3-27. Exhibit 3-28 provides a summary of the existing land uses within the Santa Ana Heights area. The existing land uses are described in more detail below.

Land uses along South Bristol Street include a variety of office and service commercial uses such as fast food restaurants, service stations, car rental companies and motels. Just west of Santa Ana Avenue on South Bristol Street, in the City of Costa Mesa, existing land uses include a hotel, restaurants and office space.

Land uses along Birch Street and Acacia Street are gradually being converted from existing residential uses to business park/office development in conformance with the current zoning designation for the area. The area, however, still includes a number of vacant parcels and legally non-conforming residential uses.

Land uses along Cypress Street are predominantly single-family and multi-family residential and include equestrian stables which represent an important resource because of the area's traditionally rural equestrian character. The properties fronting on Orchid Street, Spruce Avenue and Bayview Avenue are almost exclusively single-family homes. East of Bayview Avenue in the City of Newport Beach the land uses include

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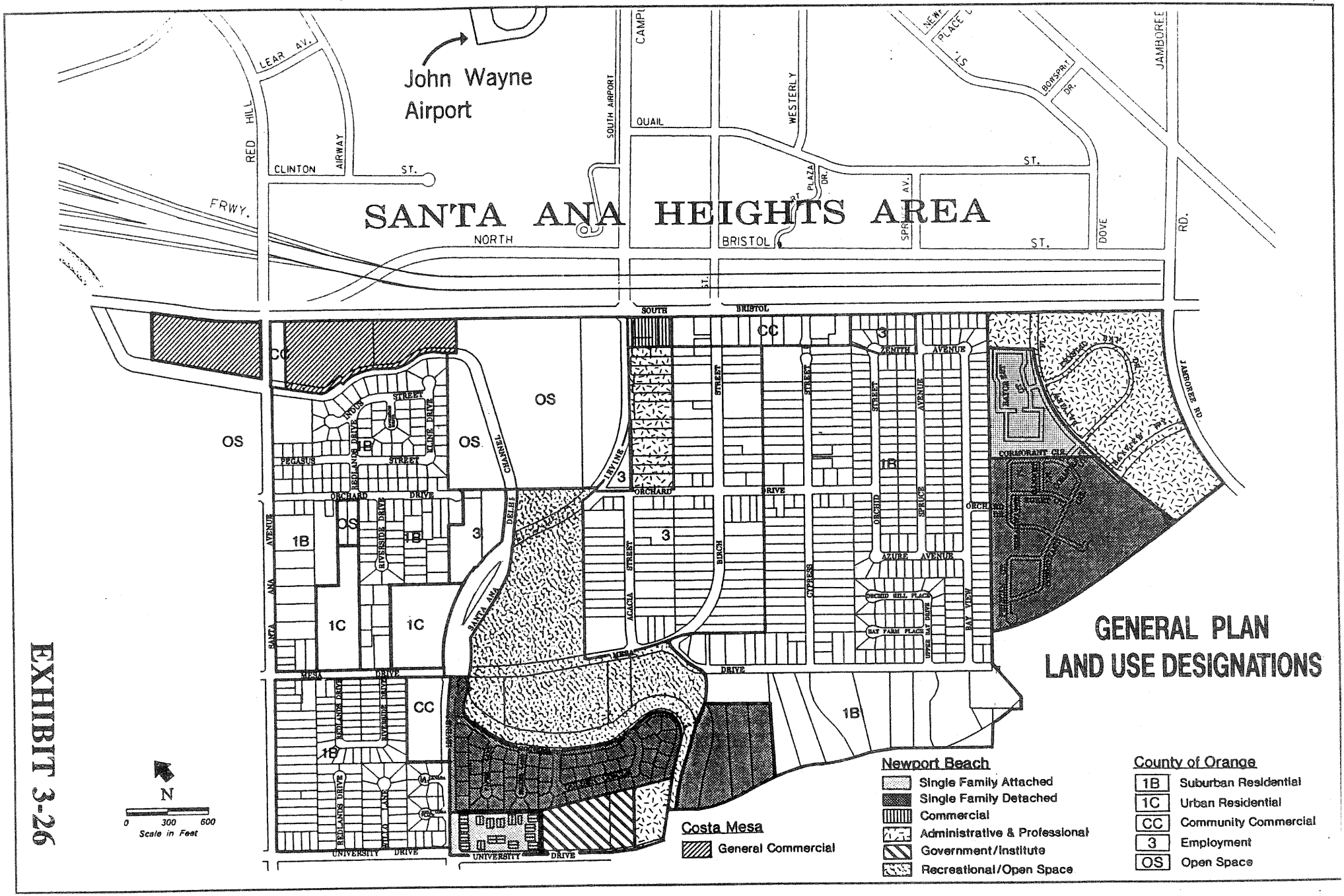
[81] In its official capacity as a redevelopment agency, the Board of Supervisors is properly identified as the "Orange County Development Agency." The Santa Ana Heights Project Area was the first of ten redevelopment project areas to be adopted and assigned to the jurisdiction of the Development Agency.



GENERAL PLAN LAND USE DESIGNATIONS

EXHIBIT 3-26

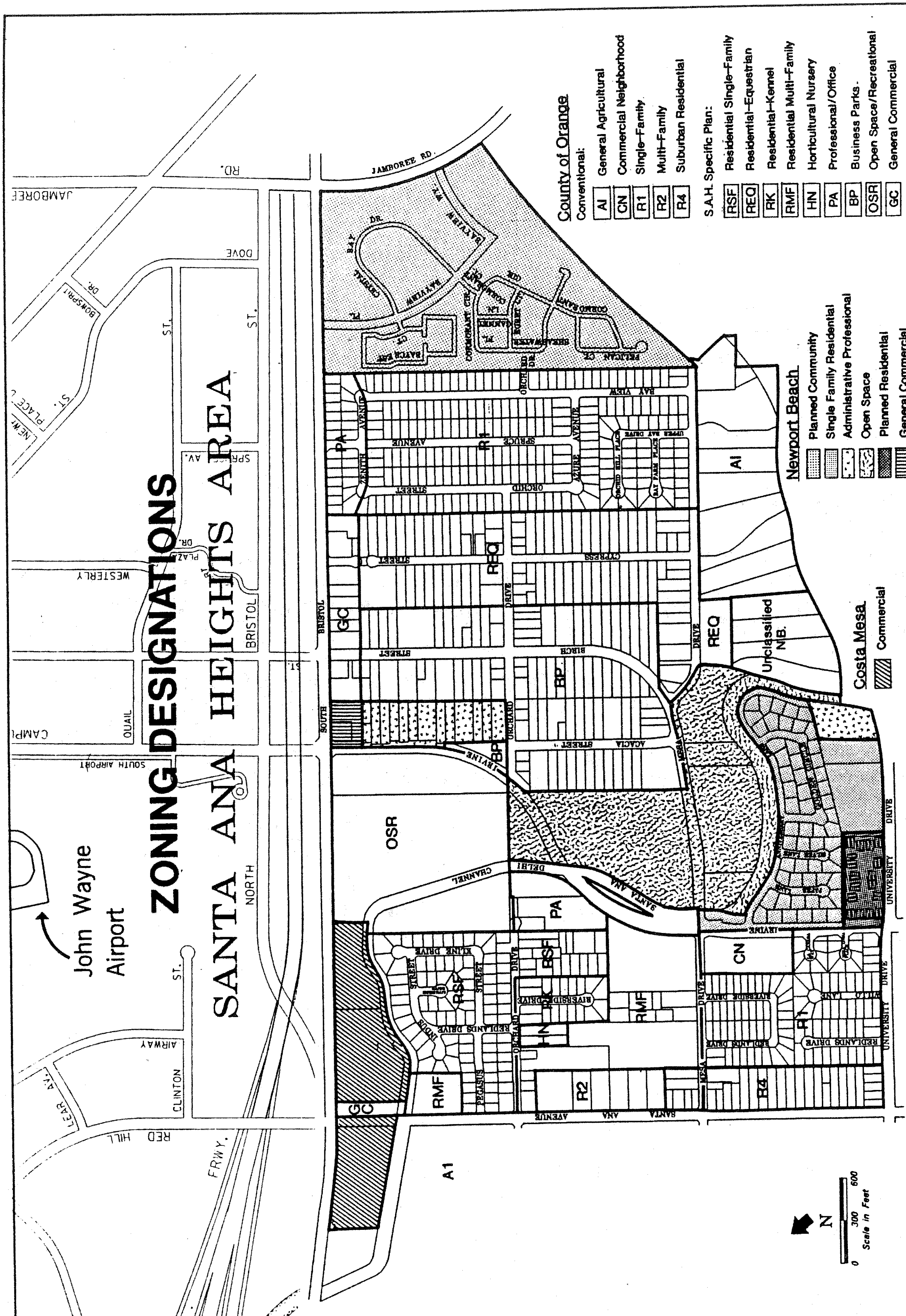

ZONING DESIGNATIONS
SANTA ANA HEIGHTS AREA
John Wayne Airport
County of Orange
Conventional:
AI General Agricultural
CN Commercial Neighborhood
R1 Single-Family
R2 Multi-Family
R4 Suburban Residential
S.A.H. Specific Plan:
RSF Residential Single-Family
REQ Residential-Equestrian
RK Residential-Kennel
RMF Residential Multi-Family
HN Horticultural Nursery
PA Professional/Office
BP Business Parks.
OSR Open Space/Recreational
GC General Commercial
Newport Beach
Planned Community
Single Family Residential
Administrative Professional
Open Space
Planned Residential
General Commercial
Costa Mesa
Commercial
Unclassified NB.
0 300 600
Scale in Feet
N
JAMBOREE RD.
DOVE
BRISTOL ST.
WESTERLY
CAMPUS
QUAIL
SOUTH AIRPORT
NORTH
AIRWAY
CLINTON
LEAR AV.
RED HILL
FRWY.
SANTA ANA AVENUE
IRVINE AVENUE
MESA DRIVE
UNIVERSITY DRIVE
ORCHARD DRIVE
ACACIA STREET
BIRCH STREET
CYPRESS STREET
SPRUCE AVENUE
ZENITH AVENUE
AZURE AVENUE
BAY VIEW
SANTA ANA DELHI CHANNEL
REDLANDS DRIVE
RIVERSIDE DRIVE
KLINE DRIVE
INDUS STREET
PEGASUS
UPPER BAY DRIVE
BAY FARM PLACE
ORCHID HILL PLACE
PELICAN CT.
AI
A1
OSR
PA
R1
REQ
BP
GC
RSF
RK
HN
RMF
R2
R4
CN

EXHIBIT 3-27

condominiums, single-family residential, office space and a large hotel fronting on Jamboree Road.

The land uses west of Irvine Boulevard and the Newport Beach golf course and north of Orchard Drive consist primarily of single-family residential. This area is commonly referred to as the Pegasus tract (*see* Exhibit 3-24). In addition, one apartment complex (232 units) is located in this area. Farther to the south, across Orchard Drive, is a mixture of single-family homes and duplexes. Three apartment complexes are also located in this area. A majority of residential properties along Riverside Drive and Orchard Drive include stables, nurseries, kennels and other small businesses.

Land uses south of Mesa Drive along Anniversary Lane within the City of Newport Beach consist of single-family residential uses. This area is commonly referred to as the Anniversary tract. This area is north of a condominium complex, the YMCA, and an office complex. Just east of the Anniversary tract and south of Mesa Drive are larger two-acre estate lots, most of which also include equestrian stables.

At the present time, there are six approved development projects in the Santa Ana Heights area (one restaurant and five office park developments). These projects involve commercial offices and/or other commercial/industrial structures on vacant land or land now occupied by residential uses.

There are 35 single family and multiple family residential units south of the airport located within the pre-demonstration 65 dB CNEL noise contour.[82]

3.2.2 Relevant Plans And Planning Background

Land use policies and guidelines for the Santa Ana Heights area and other areas surrounding the airport are governed by a combination of the planning documents listed below. Affected jurisdictions surrounding JWA dictate the location and character of land uses necessary for orderly growth through implementation of their general plan land use policies. Areas within the JWA 60 and 65 dB CNEL noise contours are also regulated by land use compatibility policies in each jurisdiction's respective general plan.

Because the proposed project will not result in any changes to landform, or the passenger capacity limitations, the brief general plan summaries below focus on the noise policies related to land use.[83] The proposed project may impact the noise environment in Newport Beach, Costa Mesa and unincorporated Orange County. Other surrounding cities

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[82] If any portion of a lot with a residence or apartment complex was within the existing 65 dB CNEL contour line, that property was included in the count used in this analysis.

[83] *See* the discussion in Section 6.2 ("Landform Alteration") of this EIR.

John Wayne
Airport

EXISTING LAND USES

SANTA ANA HEIGHTS AREA

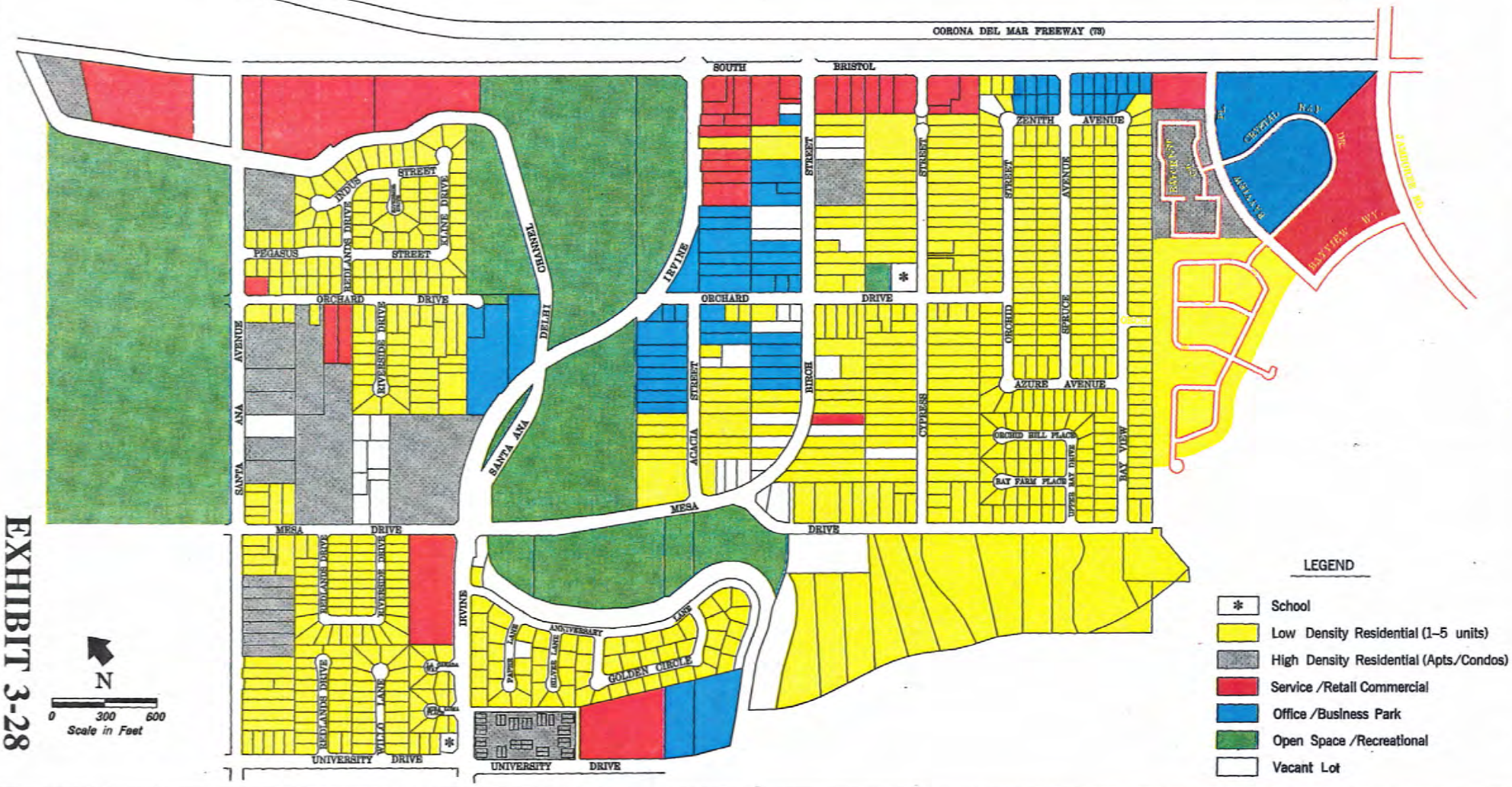

EXHIBIT 3-28

are not expected to be impacted by the proposed project because they are not within the southern departure flight pattern from JWA. As noted earlier, departures to the north will not be affected by the proposed Access Plan amendments.

Relevant General Plan Provisions

County of Orange General Plan - Policies of the Noise Element require that all new residential development subject to airport noise not exceed an exterior noise level of 65 dB CNEL and an interior level of 45 dB CNEL. Accordingly, new residential land uses (except infill) are prohibited within the 65 dB CNEL contour, while non-residential uses are allowed only if the interior noise level does not exceed an $L_{eq(h)}$ of 45 dBA to 65 dBA, depending upon the non-residential indoor use.

Non-residential noise-sensitive land uses (hospitals, convalescent homes, places of worship and schools) are allowed within the 65 dB CNEL only if appropriate mitigation is undertaken to meet state and local standards. For existing residential uses and other noise-sensitive uses within these areas, property owners are encouraged to acoustically insulate all living quarters, in accordance with standards in the Noise Element. Any such remedial actions undertaken by the property owner to achieve retroactive compatibility are done on a voluntary basis.

City of Newport Beach General Plan - In addition to land within the city's jurisdiction as shown on the General Plan map (*see* Exhibit 3-26), the city's sphere of influence extends further into Santa Ana Heights to cover all areas east of Irvine Boulevard. The City's Land Use Element recognizes this sphere of influence area and has assigned it land use designations generally consistent with those of the County's General Plan.

Noise policies are consistent with the California Noise Standards, thus new residential uses are not permitted within the 65 dB CNEL contour. The city is in the process of updating its Noise Element.

City of Costa Mesa General Plan - In addition to land within the City's jurisdiction as shown on the General Plan map (*see* Exhibit 3-26), the city's sphere of influence extends further into Santa Ana Heights to cover all areas west of Irvine Boulevard. The city's Land Use Element recognizes this sphere of influence area and has assigned it land use designations generally consistent with those of the County's General Plan.

Noise policies are generally consistent with the California Noise Standards, which states that new residential uses are normally unacceptable within the 65 dB

CNEL contour. State standards also set interior noise levels at a maximum of 45 dB CNEL for hotels, motels and apartments. The City does not have any residential uses or residentially-zoned land within the proposed project's 65 dB CNEL contour.

There are, however, a number of noise sensitive land uses near the Santa Ana Heights area which are depicted in the City's General Plan noise section. These uses - including a child care facility and high school both along Irvine Avenue - would be outside of the 65 dB CNEL contour projected for the proposed project, or any of the alternatives, under any of the three analysis scenarios used in this EIR, which is consistent with the City's General Plan objective to prevent noise sensitive land uses from being located within the airport 65 dB CNEL contour.

General Plans for the Cities of Irvine, Santa Ana and Tustin - As mentioned above, these cities will not be impacted by the project because they are not within the departure pattern to the south of JWA. As for the departure pattern to the north, single event and cumulative noise levels, as well as departure procedures, are expected to remain unchanged by implementation of the proposed project.

All three cities identify JWA as a significant noise source in their General Plans. The City of Irvine Noise Element states: "[a]ll residential uses should be protected with sound insulation over and above that provided by normal building construction when constructed in areas exposed to greater than 60 dB CNEL." The City of Santa Ana has two main noise objectives: (i) to prevent the creation of new sources of noise; and (ii) to reduce current noise levels to acceptable standards. Maximum acceptable noise levels are 65 dB CNEL for residential uses and 75 dB CNEL for commercial uses. The City of Tustin is currently updating its General Plan Noise Element and expects to adopt the revised element in mid-1993.

Other Planning Policies and Regulations

Airport Environs Land Use Plan (AELUP) - The Airport Land Use Commission ("ALUC") for Orange County, administers the statutorily required Airport Environs Land Use Plan for JWA ("AELUP"). The ALUC is charged by its statutory mandate to minimize the public's exposure to excessive noise and safety hazards through land use planning and compatibility measures.[84] The ALUC offers highly technical review of general plan and zoning amendments, discretionary permits and airport master plans.

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[84] The ALUC also has statutory responsibilities to protect the integrity of the airport and its operational mission.

Upper Newport Bay Regional Park General Development Plan - The Upper Newport Bay Regional Park General Development Plan ("GDP") is anticipated to be approved by the Board of Supervisors sometime in 1993. The County anticipates that the GDP will consist of elements such as construction of an interpretive center, consolidation of existing trails, stabilization and revegetation of degraded areas, habitat enhancement, and circulation improvements to University Drive and Irvine Avenue (among other plan elements).

Upper Newport Bay Ecological Reserve - Section 630 of Title 14 of the California Code of Regulations specifies areas declared by the California Fish and Game Commission as ecological reserves. These ecological reserves are established to provide protection for rare or endangered plants and wildlife, and for specialized terrestrial and aquatic habitat types. The Upper Newport Bay area has been designated as an ecological reserve for the purpose of preserving and enhancing its salt marsh ecosystem and life forms dependent upon this habitat type.

Land Use Plans, Policies and Regulations Adopted for Santa Ana Heights in Connection with the County's Approval and Adoption of the 1985 Master Plan for John Wayne Airport

Land Use Compatibility Program - As noted earlier, the Land Use Compatibility Program ("LUCP") affecting Santa Ana Heights was adopted by the County Board of Supervisors on February 26, 1985, in conjunction with the Board's adoption of the 1985 Master Plan. EIR 508/EIS, certified by the Board (for CEQA purposes) concurrently with the adoption of the Master Plan and the LUCP addressed the environmental impacts of both of those programs.[85]

The principal purpose of the LUCP was (and is) to ensure compatibility between projected noise levels and land uses south of JWA in conformance with criteria established by the California Noise Standards, the Orange County General Plan, and Airport Land Use Commission policies to the extent feasible. A second objective of the LUCP was to develop a long-range plan which addresses issues such as circulation, non-residential land use conversions, and special uses (*i.e.,* equestrian, nurseries and dog kennels) in the Santa Ana Heights area.

As a result of the analysis in the LUCP, the County staff developed, and the Board of Supervisors subsequently approved, a "Land Use Compatibility *Plan*" for the

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[85] The LUCP was itself a mitigation program for the 1985 Master Plan, although the County recognized and acknowledged in EIR 508/EIS that implementation of the LUCP would have its own environmental impacts. As a result, specific additional mitigation measures were adopted to mitigate the effects of the LUCP, to the extent feasible and reasonable.

Santa Ana Heights area. The Plan identified specific residential uses in Santa Ana Heights which would be retained as residential, and the specific uses and properties to be converted to uses fully compatible with airport operations.[86] In order to implement the approved plan, the County adopted a land use element amendment to its General Plan which reclassified certain residential areas to employment and commercial uses. Properties fronting South Bristol Street were redesignated to commercial or employment uses, while properties along Birch and Acacia Streets were redesignated to employment (*i.e.*, "business park") uses.

Redevelopment Plan for Santa Ana Heights Project Area - The Redevelopment Plan for Santa Ana Heights was adopted by the Board on July 15, 1986, as a tool to help identify and finance specific development and infrastructure projects in the Santa Ana Heights project area, JWA, and additional areas south and east along Irvine Avenue.

Santa Ana Heights Specific Plan (SAHSP) - The Santa Ana Heights Specific Plan ("SAHSP") was adopted by the Board of Supervisors on October 15, 1986, as a regulatory document which defines zoning and associated land use regulations for the majority of the Santa Ana Heights area which is within the County's land use regulatory jurisdiction.[87] The SAHSP is consistent with, and is a measure for implementing the LUCP.

Other objectives of the Specific Plan are to: (i) encourage upgrade of all residential neighborhoods; (ii) ensure that business park and residential uses and their impacts are adequately buffered from each other; (iii) enhance equestrian opportunities and the overall aesthetic character of the community; and (iv) ensure adequate provision of public facilities as development occurs.

3.2.3. LUCP Mitigation Programs

The LUCP and EIR 508/EIS identified possible programs intended to achieve airport land use compatibility in the Santa Ana Heights area, to the extent feasible, and to

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[86] The 65 dB CNEL contour for the Final EIR 508/EIS "project case" (assuming 73 Class A and Class AA ADDs) (*see* EIR 508/EIS, vol. 1, Figures 4.15-15 and 4.15-17) was a principal consideration in defining future land uses and eligibility for properties which were to remain in residential use for the acoustical insulation and purchase assurance programs approved by the Board as mitigation measures for the 1985 Master Plan project.

[87] *See* Exhibit 3-27. Small areas on the fringes of the unincorporated areas retained conventional zoning. Those areas too are consistent with the LUCP.

mitigate increased aircraft noise in the Santa Ana Heights area resulting from implementation of the 1985 Master Plan. To the extent that the LUCP contemplated changes in land use in certain areas of Santa Ana Heights, the program anticipated that market forces, combined with appropriate regulatory (*i.e.,* zoning) actions by the County, would effect the land use conversion. As noted earlier, the California economy, and particularly the market for commercial and business park uses in the general study area has at least delayed full realization of that expectation.

Through the various planning processes and regulatory structures implementing the LUCP, the County did implement two mitigation programs for certain areas of Santa Ana Heights designed primarily to benefit residential areas, the Purchase Assurance Program and the Acoustical Insulation Program.

Purchase Assurance Program

This Program was offered to eligible residential properties (for one year starting February 1986) that were within or adjacent to the EIR 508/EIS project case 65 dB CNEL contour for 1990.[88] That contour covers a slightly larger area than EIR 508/EIS project case contour for the year 2005 because a more modernized and quieter fleet mix was projected to be in operation by the year 2005.

The Program offered property owners who were in the eligibility area the opportunity - it was strictly a voluntary program - to sell their property for fair market value to the County through a specified appraisal process. Once the property was acquired, and depending on its zoning designation, it was: (i) cleared and resold for non-residential uses; or (ii) the home was acoustically insulated, an avigation easement was recorded in the chain of title to the property, and then the property was resold or leased. During the public hearing and other public input processes leading to adoption of the 1985 Master Plan and the LUCP, some residents of Santa Ana Heights had indicated to the County that they did not wish to continue to reside in Santa Ana Heights if the project was adopted regardless of any other mitigation actions the County might take. The purchase assurance program was a time-limited (one year) opportunity for those persons to move their residence elsewhere. Those residents who did not choose during that period to take advantage of the purchase assurance program made their choice primarily based upon their experience with the aircraft types, operational procedures (including power cutback noise abatement departures) and the frequency of aircraft events which they experienced before and after April 1985 when the Phase I flight level increases (to 55 Regulated ADDs) occurred.

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[88] "Adjacent" properties were included in these programs in certain areas in order to maintain consistent policies in identifiable neighborhoods,or along the same street. Essentially, reason and fairness were used as the principal criteria in defining the specific properties eligible for these programs.