

Comment Letter No. 19

Sep 13 12 04:07p

STEVEN BRADFORD

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Mr. Bill Dean
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City of Tracy
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RE: Ellis 2012 Specific Plan Project documents/DEIR Comments

The term "heat island" describes the heat build up within cities that is hotter than the surrounding rural areas. Heat islands are created when city growth alters the urban fabric by substituting manmade asphalt roads and tar roofs and other features. The hard, dark surfaces like pavement store heat during the day, the heat is then released at night keeping the city hotter for longer periods of time. Heat islands affect communities by increasing summertime peak energy demand, air conditioning costs, air pollution, Green house gas emissions, heat -related illness and mortality, and water quality. NASA measures the increase temperature of heat islands from 7 to 12 degrees Fahrenheit.¹

Tracy has now grown to cover 13,440 acres, Manteca has reached 10,176 acres, Lathrop now covers 10,688 acres, Modesto covers 23,040 acres, Patterson a mere 3,808 acres and Stockton is covering 39,744 acres. These are a few communities in our area that have grown to 103,098 acres of heat island. If we look at the entire state this type of growth is happening every where. The heat islands are a accumulative event that needs addressing . This is the oven in the greenhouse that is raising the temperature and the gases are the blanket that is keeping the heat in.

This problem needs to be addressed, I brought it to the attention of the Planning Commission on February 22,2012 when public comment was accepted for the Ellis 2012 Specific Plan Project. I failed to see any mention of this effect in the Ellis 2012 Specific Plan Project DEIR. This problem needs to be addressed!.

Steven Bradford
Tracy Resident



1. www.nasa.gov/topics/earth/features/heat-islands-sprawl.html

19.1

Response to Letter No. 19 Steve Bradford

- 19.1 Impacts associated with the heat island effect were analyzed in Draft Revised EIR Section 4.6, *Greenhouse Gas Emissions* (refer to page 4.6-17 through 4.6-18 of the Draft Revised EIR). As noted in the Draft Revised EIR, Mitigation Measures 4.6-1a would require the Modified Project to use “cool” roofs and strategically placed shade trees to increase energy efficiency and to reduce the heat island effect. With implementation of Mitigation Measures 4.6-1a, impacts associated with the urban heat island effect would be less than significant.

Comment Letter No. 20

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September 13, 2012

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**Re: Notice of Preparation of EIR
City of Tracy**

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CITY OF TRACY
D.E.S.

Dear Mr. Dean:

These are TRAQC's comments to the City of Tracy Modified Ellis Project Draft Revised Environmental Impact Report (DREIR).

The DREIR is based on the legally false premise that it is possible to "amend" "restate" "revise" or "modify" a void Development Agreement (DA). If the Original DA is determined to be void then it does not exist and cannot be amended, restated, revised or modified. The Project Description includes this legal impossibility describing the project as a modification or amendment of the original Ellis DA, (See Sections 1.3, 3.1, pages 1-2, 2-23-1) The Description is intentionally unclear and confusing about the effective date or date fixing the vested rights. The Description spends great amounts of time differentiating between the "Original" DA and the "Amended" "Restated" or "Modified" DA, but then when it describes the date upon which rights would be vested refers to just the "Agreement". (Section 3-6, page 3.3.1.) This appears to be designed to confuse the reader of the DREIR into not knowing whether vested rights would be vested as of 2008 as stated in the original "agreement" or 2012 or some later date assuming the amended, restated, revised or modified Agreement is approved in 2012 or some later date.

20.1

It is TRAQC's position a void DA cannot be amended, revised, restated or modified. It is also TRAQC's position that NO vested rights can be granted that would be vested as of any date relating to the void original DA.

20.2

The Description of the DREIR is defective in its failure to describe in a clear manner this critical vesting element of the DA. The DRIER needs to be complete without referencing and incorporating void documents. It cannot propose to amend, modify, revise or restate void documents.

20.3

The DREIR is even inconsistent in whether the Original DA is part of this new project or DREIR. Although as described above the DREIR repeatedly states that the Original DA is being modified, restated, amended or revised, it states the DAP described and analyzed in the Original Ellis EIR is not part of this project and have been eliminated from “this Revised EIR”. (Page 2-16, Section 2.3.3 The DREIR states “as noted above, the DAP has been eliminated from consideration and is not the subject of this application.” (Page 2-7, Section 2.3.3) So while the entire DREIR is saturated with reminders that this is a modification, restatement, amendment or revision of the DAP it also states that the DAP is not part of this current process. Either this is an attempt to modify or amend a void DA or it is a new DA. It cannot be both. The attempt to confuse by providing conflicting descriptions in the DREIR goes to the core of the approvals being granted.

20.4

A defect in the Original DA and CEQA process was the inconsistent or changing project description. This has been admitted by the City as being due to its negotiating the DA during the CEQA review process. This error is continuing. By footnote the DREIR attempts to protect itself by disclosing that the DA is not final and may change, but that these changes will not be significant. It is impossible, as it was with the Original DA, for commentators to determine if the project description and the DA are consistent because the DA has **not** been provided to the public during the DREIR Comment period. It is also impossible for the DREIR to protect itself against unknown changes with a footnote such as this. It is therefore impossible to review the accuracy of the project description.

20.5

The DREIR indicates its intention is to “address or remedy the issues” identified by Judge Holland in setting aside all the project approvals. (1-1, 2-19, 2.3.6) It does neither as to many subjects.

20.6

The Original DA was defective in its use of rogue RGAs which Surland could transfer use and sell outside the ESP. The impacts of these rogue RGAs in terms of its effect on patterns of growth, impacts on farmland, inducement of sprawl and non-contiguous growth, impacts on agricultural land, the shortage of RGAs for infill and other projects were all impacts identified in comments by Nicolaou, TRAQC and others. The DREIR in its lower range density for the ESP (1,000 to 2,250 RGAs) creates these same impacts. Under the proposed project the Ellis project could build out as low as 1,000 RGAS, leaving 1,250 RGAs to be transferred to other developers. These spare and transferrable RGAs, created by the overly broad density range of the project, will be available to transfer to other developers and projects. This fact invalidates many critical conclusions of the DREIR.

20.7

For example, Alternative #6, which Judge Holland found was improperly rejected, is still improperly rejected using the same analysis. Alternative #6 was and still is rejected with a finding that build out at its lower density would not achieve the project objective of build out of Ellis at a higher density. However, the project now has a lower density, as low as 1,000, meaning that AS APPROVED is has a lower density than Alternative #6. So the density of the project, as approved is LESS than the rejected alternative. For some reason however, a new rationale offered for rejection of

20.8

Alternative #6 is that the project applicant indicates it may not be economically feasible to provide funds for the pool if he has to build only at the reduced density of only 1,224. However, the project as approved would have a density of a little as 1,000. Why is the developer being allowed a density as low as 1,000 if he has indicated that even at 1,224 the financial contribution is not feasible? The reason is that with a range of 1,000 to 2,250 RGAs he has the ability to transfer (sell) 1,250 RGAs. (3.3.4, 3-25) So the rejection of Alternative #6 is still flawed by inconsistent findings. The inconsistent findings are necessary to conceal the fact that 1,250 RGAs are still planned to be used outside the ESP.

20.8
cont

If Alternative #6 is to be rejected because Ellis must be built out at near 2,250 units, then it needs to be required that 2,250 RGAs be used at Ellis and not be transferrable. If a lower density of 1,000 is to be allowed, then the reduced density alternative should be approved with no extra RGAs. If this is really a disguised sale of an extra 1,250 RGAs as it appears, then that needs to be recognized in the project description and EIR analysis. That is important as to impacts as the City still does not have any adopted priority development in the GMO. Spare RGAs, which will occur under Alternative #6 or the project will affect the pattern of growth and have exactly the impacts identified in original EIR. Rather than repeat all these impacts caused by excess 1,250 RGAs under the Applicant's control, TRAQC has provided the entire Administrative Record of the pending litigation which includes those comments and support. This DREIR fails to analyze the environmental impacts of the spare 1,250 RGAs allocated to the project in any way.

20.9

One way to resolve this extra RGA issue is to RAISE the lower density of the project from 1,000 to a much narrower range closer to the project capacity of 2,250. This would eliminate the inconsistency between the rejection of Alternative #6 and the adoption of a project with a lower density. If the real objective is to generate extra RGAs for the applicant to transfer off site, then this will not be acceptable.

20.10

The DREIR does not address or remedy prior defects particularly as to alternatives.

20.11

The DREIR adds what it indicates is a new Alternative #9. (1.8.1, 1-5) This alternative, which is doomed from inception, is a no swim center alternative. A defect in the prior EIR was the use of many alternatives which did not include a swim center and then the inevitable rejection of each. Here adding an alternative that does not include the swim center is adding only another alternative that is doomed. What is worse this is not really anything different than the original project other than no pool. Under the original DAP if the dedication was not accepted the 16 acre reverted to the developer, the pool was not built, and the developer paid in lieu fees on approximately one acre per 1,000 residents. Under Alternative #9 there is no pool and the developer pays in lieu fees on approximately 1 acre per 1,000 residents. The only difference is that the developer does not pay money to the City. This is not a new alternative. It is just taking any potential benefit from the project thereby dooming the alternative to rejection.

20.12

Alternative #10, 1993 ALUCP Runway Length, is not an alternative at all. It is just a proposal to apply outdated ALUP disguised as a new alternative. (1.8.2) The DREIR is clear, as is the law it cites, that the current ALUP must be applied. Alternative #10 appears to propose use of an outdated Plan. Runway 12-30 is 4,002 feet. (4.9.1) Alternative #10 is a proposal to reduce this runway length to 3,996 feet. (6.5.2, 6-34) There is nothing in the DREIR or record to support the assumption that if the runway is shortened with some agency, such as FAA, that there would be any resulting ability to use an outdated 1993 ALUP. Alternative #10 is nothing more than a project based on an outdate ALUP in the hope that a runway can be shortened with the FAA due to negligence and or collusion by the City and its contractor in shortening it by incorrect painting and paving, allowing the project to be approved and proceed today under an outdated ALUP in the hope a runway can be shortened allowing reduction of the safety and approach zones. It is a not very well disguised attempt to apply an outdated ALUP to a project and airport to which it cannot currently be applied.

20.13

No attempt is made to include alternative locations and the rationale for rejection of all are based on poor logic or are unsupported. For example, many are rejected because they are not the project. What is said is that if the Alternative was chosen, then it would not be TR-Ellis. That is true of any alternative. Any alternative location will, logically, not be Ellis and may result in Ellis not being built.

20.14

Neither is it grounds to reject alternatives because they are planned for development. On one hand the City rejects Alternatives like Moitoso because it is no longer planned for development and then rejects Saddlebrook because it is planned for development, but has not submitted plans. If property not planned for development can be eliminated, and project planned for development can be eliminated, nothing else is left.

20.15

Finally, as the attached administrative record makes clear, Surland did not own a single acre of the Ellis site when this project was previously proposed. Surland has argued on appeal that it controls only of 23 acres. There is no evidence that the Applicant owns and controls the ESP site now. No alternative can be rejected based on Surland's lack of ownership or control as it has admitted it does not own or control Ellis.

20.16

Although the DREIR indicates it is an attempt to address to reply to Judge Holland's ruling, a review of the alternatives shows this to be untrue. Not a single alternative location is considered. Alternative #6 is rejected on the same inconsistent findings it was before. Alternatives are added that are doomed to failure for failure to include a swim center, or in the case of Alternative #10 do not even comply with the law requiring a project be consistent with the current ALUP.

20.17

Some attempts to deal with defects identified by Judge Holland do not resolve the issue. For example, as to traffic the issue raised was the failure to have a plan indicating when the roadway improvements would, if ever, be constructed. The attempt to "remedy" this is to require the actual improvement at a volume threshold to be determined by the City Engineer at the time of the building permit process. (4.13-5b) That does not remedy the project. What level of service must be reached to trigger the roadway improvement? Level F? Level G? when will the improvement be completed?

20.18

This is still no guarantee of when, if ever, the improvements will occur because it is left to the unknown subjective determination of an unknown public employee in a City Department some day in the future. This does not satisfy the findings that Traffic Mitigation measures in the DEIR were insufficient.

20.18
cont

To support the above arguments TRAQC is submitting the following documents which need to be made part of the record. The DREIR frequently incorporates the prior Original Ellis EIR into its land use analysis. (Page 2-16, Section 2.3.3, Section 4.9, Page 4.9-1). This requires the prior litigation and record related to that Original Ellis EIR also be part of the record to support the statements made above. For example, the record establishes that Surland has indicated it does not have ownership and control of the Ellis site.

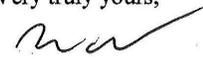
20.19

The following documents to support TRAQC's position are submitted:

1. Final July 2009 San Joaquin County Aviation System Airport Land Use Compatibility Plan
2. Tracy Region Alliance for a Quality Community (TRAQC) v. City of Tracy, Surland Companies, et al, San Joaquin County Superior Court, Case No. 39-2009-00201854-CU-WM-STK – **Statement of Decision**
3. Tracy Region Alliance for a Quality Community (TRAQC) v. City of Tracy, Surland Companies, et al, San Joaquin County Superior Court, Case No. 39-2009-00201854-CU-WM-STK – **Petitioners Opening Brief Supporting Petition for Writ of Mandate**
4. Tracy Region Alliance for a Quality Community (TRAQC) v. City of Tracy, Surland Companies, et al, San Joaquin County Superior Court, Case No. 39-2009-00201854-CU-WM-STK – **Errata to Petitioner's Opening Brief Supporting Petition for Writ of Mandate**
5. Tracy Region Alliance for a Quality Community (TRAQC) v. City of Tracy, Surland Companies, et al, San Joaquin County Superior Court, Case No. 39-2009-00201854-CU-WM-STK – **Petitioner's Reply Brief Supporting Petition for Writ of Mandate**
6. Tracy Region Alliance for a Quality Community (TRAQC) v. City of Tracy, Surland Companies, et al, San Joaquin County Superior Court, Case No. 39-2009-00201854-CU-WM-STK – **Administrative Record, Complete Index and Index noting excluded pages.**
7. 3 Boxes - Tracy Region Alliance for a Quality Community (TRAQC) v. City of Tracy, Surland Companies, et al, San Joaquin County Superior Court, Case No. 39-2009-00201854-CU-WM-STK – **Administrative Record, pages 00001-11037, with**

pages excluded from Administrative Record at the Trial level reintegrated and included in documents submitted into the DREIR record.

Very truly yours,



MARK V. CONNOLLY

cc: TRAQC

Documents Submitted

1. Final July 2009 San Joaquin County Aviation System Airport Land Use Compatibility Plan
2. Tracy Region Alliance for a Quality Community (TRAQC) v. City of Tracy, Surland Companies, et al, San Joaquin County Superior Court, Case No. 39-2009-00201854-CU-WM-STK – **Statement of Decision**
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Response to Letter No. 20 Mark Connolly

Note to Reader: *The commenter included approximately 3 legal size boxes of attachments totalling approximately 11,000 pages to the comment letter that were too large to reproduce. Copies of the aforementioned attachments are available for review at the City of Tracy, 333 Civic Center Plaza, Tracy, CA 95376*

- 20.1 The comment incorrectly suggests that the original Development Agreement (“Original Ellis DA”) between the City of Tracy and Surland Communities, LLC, approved by the City Council via Ordinance No. 1131 adopted on January 6, 2009, and executed by the mayor on February 5, 2009, is currently “void.” In fact, while the San Joaquin Superior Court entered judgment on October 31, 2011 finding that the Original DA is void and ordering that the City vacate and set aside its approval, this judgment has been stayed as a result of appeals filed by both the City and the Project Applicant, and appellate proceedings are thus currently pending before the Third District Court of Appeal. While the judgment nonetheless prohibits the City or the Project Applicant from implementing the Original Ellis DA while the appeals are pending, it is not correct to state that the Original DA is currently “void.”

Having noted the above, the Draft Revised EIR’s project description explains at page 3-6 that “[t]he Amended and Restated Ellis DA will supersede the previously approved Ellis DA” and that “[t]he Amended and Restated Ellis DA vests into existing laws and regulations as of the time of the Agreement, with exception for future changes in affordable housing and green building requirements.” To the extent that there is any perceived ambiguity in this last statement, it is being revised to state: “The Amended and Restated Ellis DA will vest into then-existing laws and regulations as of the time it is hereafter approved, with exception for future changes in affordable housing and green building requirements.” In other words, the Amended and Restated Ellis DA will only provide the Project Applicant with vested rights as of the date it is actually approved. There will be no vesting under the Amended and Restated Ellis DA as of the date the Original Ellis DA was approved in 2009. And, if adopted, the Amended and Restated Ellis DA will supersede the Original Ellis DA, which means that the Original Ellis DA will no longer be in effect so long as the Amended and Restated Ellis DA is in effect. However, if, for some reason, the Amended and Restated Ellis DA is later declared void or is otherwise set aside after it is adopted (e.g. as a result of additional court proceedings), it will no longer have the effect of superseding the Original Ellis DA, which could thus remain in effect in the event that the Third District Court of Appeal reverses the October 31, 2011 judgment and upholds the validity of the Original Ellis DA.

The Amended and Restated Ellis DA can also be fairly described as a “revision” or “modification” of the Original Ellis DA. Which adjective is used is not material. What is important is that, should it approve the Modified Project, the City will adopt the Amended and Restated Ellis DA in full as a stand-alone agreement, rather than merely adopt

- amendments or revisions to the Original Ellis DA. The City's actions will neither assume that the Original Ellis DA is in effect, nor will it assume that it is not in effect – that is a question left to be resolved by the Third District Court of Appeal.
- 20.2 See Response to Comment 1.1.
- 20.3 See Response to Comment 1.1.
- 20.4 See Response to Comment 1.1. There is no inconsistency in the Draft Revised EIR's project description. As explained in Response to Comment 1.1, the Amended and Restated Ellis DA includes what can alternatively be described as "amendments," "revisions," and/or "modifications," to the text of the Original Ellis DA – which adjective is used is not relevant. One of those amendments (or revisions or modifications) is that all provisions relating to a so-called "Development Agreement Program" ("DAP") that were contained in the Original Ellis DA are being eliminated and are thus not included in the Amended and Restated Ellis DA. Please see Section 3.3.1 of the Draft Revised EIR, pages 3-6 and 3-7, for a summary of all relevant terms included in the Amended and Restated Ellis DA. These terms do not include any DAP, and specifically do not include any provision for the allocation of any RGAs for any development outside of the Ellis Specific Plan Area, nor for any subsequent transfer of any RGAs allocated within Ellis to areas outside of the Ellis Specific Plan Area.
- 20.5 The October 31, 2011 Judgment of the San Joaquin Superior Court incorporates the Court's Statement of Decision, which was also filed October 31, 2011. The Statement of Decision, at pages 19-23, found that the Original EIR's Project Description was inadequate due to confusion over what RGAs would be allocated within the Ellis Specific Plan area, and what RGAs would be allocated outside of Ellis (referred to at one point in the Decision as "Post-Ellis" or "Non-Ellis" RGAs). For example, this discussion in the Statement of Decision concludes (at page 23) with the statement "In any event, at a minimum, the description has created confusion about the Project and about the Development Agreement's provision of RGAs and how many are available and where. A legally sufficient EIR requires an accurate and stable project description." The current Project, and specifically the Amended and Restated Ellis DA, remedies this defect by completely eliminating the DAP and thus eliminating any potential allocation of RGAs outside of the Ellis Specific Plan area. The maximum of 2,250 RGAs are now only being reserved for development within Ellis. Thus, there can be no confusion over how many RGAs can be allocated or used outside of Ellis – that number is now clearly zero. The comment is thus incorrect that the Revised Draft EIR somehow continues to have the same type of erroneous project description as the Court found existed with the prior Project.
- 20.6 Refer to Response to Comment 1.5 and the following additional responses below.
- 20.7 As identified on page 3-6 of the Draft Revised EIR, the DA would establish the allocation of a total of 2,250 RGAs to the Project Applicant to be applied entirely within the approximate 321-acre ESP. Further, this is reinforced further on page 3-7 of the Draft Revised EIR, under the heading "City to Provide Project Applicant" whereby it states that a maximum of 2,250 RGAs are reserved for the Project over a period of 25 years, to be

allocated annually. Additionally, the Draft Revised EIR states that 225 RGAs are reserved and allocated to the Project each year, subject to the City's right to reduce reservation to 150 RGAs for up to 3 years (non-consecutive and no less than 2 years apart). Therefore, no RGAs would be permitted to be transferred outside of the Project site. Should market forces or other conditions preclude the ability to develop the full range of 2,250 units allowed under the Specific Plan, the Project Applicant would not be allowed to transfer the remaining unused RGAs elsewhere. Moreover, Chapter 3 of the Draft Revised EIR has been modified to reflect that the Amended and Restated Ellis DA no longer sets aside building permits for the Project Applicant. Therefore, environmental analysis associated with transferring remaining RGAs was not included in the Draft Revised EIR because no units are proposed, contemplated or allowed to be transferred.

- 20.8 The difference between the Project as proposed and Alternative 6 is that the Project as proposed would allow for development of up to 2,250 units (with a minimum of 1,000 units), whereas Alternative 6 would cap maximum development at 1,250 units. Alternative 6 has been identified as a potentially feasible alternative to the Project which would reduce, but not eliminate, some of the Project's significant environmental impacts. When it comes time for the City Council to act upon the Project proposal, it will need to decide whether to approve the Project as proposed, or Alternative 6, or one of the other alternatives analyzed in the Draft Revised EIR, or some combination or variation of one or more of the alternatives. At that time, if the City Council chooses to reject Alternative 6 as infeasible, it will have to adopt findings in compliance with CEQA supporting that rejection. It should be noted that the October 31, 2011 judgment of the Superior Court did not find any flaw with the prior EIR's analysis of Alternative 6 and only found that the City Council's prior findings for rejecting Alternative 6 were not supported by substantial evidence.

The Revised Draft EIR at page 6-28 to 6-29 and 6-39 provides some explanation why the City Council may well decide to ultimately reject it as infeasible, although full proposed findings have yet to be drafted. The City disagrees with the commenter that it utilizes the same analysis utilized when the City previously rejected Alternative 6. The discussion of the benefits of higher density development in terms of concentrating growth, limiting sprawl, and making it more feasible to support a transit center are not the same. Also, it should be noted that the basis for the trial court's decision regarding the inadequacy of the previous findings rejecting Alternative 6 turned in significant part on the potential allocation of RGAs outside of the Ellis area, as reflected at page 29 of the Statement of Decision. Given that the current Project does not provide for any allocation of RGAs outside of Ellis, this aspect of the Statement of Decision would no longer apply.

By way of further explanation, it should be noted that the basis for using 1,000 DU's as a minimum number of units that could be developed is due to the additional development restrictions outlined in the 2009 ALUCP. The 2009 ALUCP has more restrictive guidelines for development within each of the cone zones. The portion of the ESP site located within Outer Approach/Departure Zone 4 would be limited to a development density of 5 du/ac. This lower density, if combined with the potential development of a

school site and the proposed Swim Center, would reduce the overall number of DU's within the site. In addition, the Draft Revised EIR did not state that Alternative 6 is infeasible. Rather, the Draft Revised EIR stated that implementation of the Original and/or Modified ESP would result in a more compact development that would achieve some benefits in terms of reducing traffic because uses would be concentrated together and less vehicular travel would occur. This reduction in vehicle traffic would result in associated reductions in air pollutant and GHG emissions. This is because developing the site with less homes (as proposed by Alternative 6) would result in less overall vehicular travel than would occur by developing the site with more homes (as proposed by the Original and/or Modified ESP) closer to commercial uses. It is the volume of vehicular traffic that directly impacts the significance level of transportation, air pollutant, and GHG impacts for the Project. Though it does not fully meet the Project Applicant's objective of developing the maximum density possible, it would result in less adverse impacts, and as such, remains a potentially feasible alternative to implement. The City's land use designations were formed as part of a comprehensive blueprint for the City, incorporating such principles as smart growth and proper distribution of uses. To this end, development of the ESP site at the maximum density feasible within ranges established by the General Plan, as indicated in the Revised Draft EIR is what was anticipated for the site by the City previously.

Additionally, refer to Response 20.7, above. Any remaining RGAs not developed on the ESP site are not allowed to be transferred or sold. RGA's reserved for the Project by the City vis a vis the Amended and Restated Ellis DA would be restricted to use on the Ellis site. Refer to Responses 20.7 and 20.8, respectively.

20.9 Refer to Responses 20.7 and 20.8, respectively.

20.10 Refer to Responses 20.7 and 20.8, respectively.

20.11 The October 31, 2011 Statement of Decision (at pages 27-28) found that the prior EIR's analysis of alternatives was inadequate solely because the EIR did not consider off-site alternatives. The Statement of Decision did not identify any other basis for finding the EIR's analysis of alternatives to be inadequate (and its separate finding regarding the City's rejection of Alternative 6 did not address the adequacy of the EIR but rather the adequacy of the City's CEQA findings).LEGAL TO RESPOND In response to the Statement of Decision, the Draft Revised EIR includes a detailed 21-page analysis of the feasibility of off-site alternatives, both for the swim center itself and for the Project as a whole, including specific analysis of each of the three sites referenced in the Statement of Decision. The Draft Revised EIR thus remedies the sole defect identified by the Superior Court in the prior EIR's analysis of alternatives.

20.12 The City disagrees with the commenter. Alternative 9 was included for analysis in the Revised Draft EIR in the event that the City elects not to accept the Swim Center land offer for dedication within the ESP site. As stated on page 6-30 of the Draft Revised EIR, three acres of Neighborhood Parks per 1,000 residents would be developed within the ESP site. However, because under Alternative 9 the swim center would not be developed, the Project Applicant would be required to pay an in lieu fee to satisfy the one

acre of Community Park per 1,000 residents required by the City. The comment's statement that the prior EIR was defective because it included alternatives that did not include a swim center is unsupported by the October 31, 2011 Statement of Decision, which included no such finding.

- 20.13 Refer to Master Response 2.0-2, (Master Alternative 10 Response).
- 20.14 Refer to Section 6.2.2 (Alternative Site Locations) in Chapter 6, Alternatives of the Draft Revised EIR. An exhaustive analysis of alternative sites was conducted as part of the Draft Revised EIR. As stated in the Draft Revised EIR, CEQA Guidelines Section 15126.6(f) (1) establishes that one of the factors to take into consideration when determining the feasibility of an alternative is "whether the proponent can reasonably acquire, control, or otherwise access the alternative site." All other sites analyzed are not in control of the Project Applicant or its business partners. The Project Applicant does not own nor has been given control to plan any other sites within the City, as identified in the Draft Revised EIR. The Project Applicant has acquired and currently owns title to the majority of the acreage within the ESP site, as evidenced by copies of grant deeds provided to the City, and the City has been informed that the Project Applicant has been given the authorization of all other owners of the remaining ESP acreage to pursue processing of the application filed with the City of Tracy to obtain entitlements to develop the ESP property on their behalf. Further, the City has been informed that the Project Applicant has entered or will soon enter into an option/purchase agreement(s) giving it an equitable interest in the entire remaining acreage within the ESP site, which acreage it will thereafter acquire in fee ownership through exercise of its rights under the option/purchase agreement. Documents substantiating the Project Applicant's control over the property are on file with the City of Tracy located at 333 Civic Center Plaza, Tracy, CA 95376.
- 20.15 Chapter 6 (Alternatives) of the Draft Revised Ellis EIR has been revised based on this comment. Of the reasons rejecting the selection of UR 9 as a viable alternative location for the Ellis project, the discussion stating that UR 9 is already designated for development in the General Plan has been deleted as one of the justifications for not finding it to be a viable location on pages 6-18 and 6-19; refer to Chapter 3 (Revisions to the Draft Revised EIR) of this Final Revised EIR..
- 20.16 The Project Applicant has acquired and currently owns title to the majority of the acreage within the ESP site, as evidenced by copies of grant deeds provided to the City, and the City has been informed that the Project Applicant has been given the authorization of all other owners of the remaining ESP acreage to pursue processing of the application filed with the City of Tracy to obtain entitlements to develop the ESP property on their behalf. Further, the City has been informed that the Project Applicant has entered or will soon enter into an option/purchase agreement(s) giving it an equitable interest in the entire remaining acreage within the ESP site, which acreage it will thereafter acquire in fee ownership through exercise of its rights under the option/purchase agreement. Documents substantiating the Project Applicant's control over the property are on file with the City of Tracy located at 333 Civic Center Plaza, Tracy, CA 95376.

- 20.17 Refer to Responses 20.7 through 20.16. Also refer to Section 6.2.2 of the Draft Revised EIR for an exhaustive discussion and analysis of alternative site locations.
- 20.18 In California, State legislation sets certain legal and procedural parameters for the implementing traffic impact fees. This legislation was passed as AB1600 by the California Legislature and is now codified as California Government Code Sections 66000 through 66009. Payment of Traffic Impact Fees in Tracy follows AB 1600 requirements. It establishes a program whereby fair share payments are made by developers, based on cumulative growth of traffic through General Plan buildout. It is a tested process in California and many cities use AB 1600 to collect development impact fees. The mitigation requirements for the ESP also ensures that, if a LOS threshold is exceeded due to the addition of the project traffic (LOS thresholds are clearly defined in the General Plan), the project shall fund the improvement upfront if the City has insufficient funds to implement the identified improvement. The developer may be reimbursed as future fees are collected. The Tracy City Council approves the fee program and it is enforced on every future development project. City officials/staff do not have the authority to override the City Council resolution without their consent.

Further, improvements to a roadway are made when development traffic is added to a roadway and the subsequent acceptable LOS threshold will be exceeded. If project traffic is added to the road network and the LOS threshold is not exceeded, no improvements are required and the developer would then only pay a fair share to the TIF program.

To determine if the thresholds are exceeded, the City can either refer to the EIR, or conduct an independent assessment of the anticipated traffic operating conditions with the addition of the project traffic. If an improvement is warranted, it will then be designed and constructed at the time when building permits are submitted by the developer for review by the City. In addition, a roadway improvement design would be submitted to ensure that the improvement is funded and implemented before the traffic is loaded onto the network. If sufficient funds have been collected in the TIF, the City will fund the improvement and the developer will pay their fair share only. If insufficient funds are collected, the City can request the developer to fund the improvement upfront and be reimbursed. This would only apply to roadways included in the TIF program. Any roadways not included in the TIF would be fully funded by the developer.

When traffic generated by the Project is proposed to be loaded onto the roadway system and the LOS threshold is exceeded, the Project Applicant is required to improve the road to handle the additional traffic. This determination will be made at the time building permits are pulled, which is also when the Project Applicant would pay Traffic Impact Fees. A roadway improvement plan set would be submitted at the same time as the permit plan set. The improvements shall be in place by the time the housing units are occupied and the traffic is loaded onto the road network.

20.19 The documents attached to the commenter's letter have been incorporated into the Project record.

Comment Letter No. 21

From: Dave & Trina Anderson <dntanderson@yahoo.com>
To: "william.dean@ci.tracy.ca.us" <william.dean@ci.tracy.ca.us>
Sent: Thu, September 13, 2012 2:10:51 AM
Subject: Ellis 2012 Specific Plan Project documents/DEIR Comments

September 12, 1012
Mr. Bill Dean,
Assistant Development and Engineering Services Director
City of Tracy
333 Civic Center Plaza, Tracy, CA 95376,
william.dean@ci.tracy.ca.us
209-831-6400

Mr. Bill Dean,
Attached you should find comments (DEIRcommentsTAA.pdf) regarding the Ellis 2012
Specific Plan Project documents/DEIR.
Also there should be four additional attachments.
Hard copy to follow.

David Anderson
Vice President Tracy Airport Association
A Chapter of the California Pilots Association

ATTACHMENTS:
Tracy Municipal Airport Instrument of Transfer
Title 49, United States Code subtitle VII – FAA Grant Assurances
North Las Vegas Airport SJR-3 Flight Safety Review and Recommendations
AAR73-06 AIRCRAFT ACCIDENT REPORT File No. 3-1191

September 12, 1012
 Mr. Bill Dean,
 Assistant Development and Engineering Services Director
 City of Tracy
 333 Civic Center Plaza, Tracy, CA 95376,
william.dean@ci.tracy.ca.us
 209-831-6400
 fax 209-831-6439.

RE: Ellis 2012 Specific Plan Project documents/DEIR Comments

CEQA requires that an adequate risk & safety analysis must be performed. In that analysis airport-related hazards analysis must be complete and accurate. The DEIR claims “ESP would not expose people or property to significant airport-related hazards”. This simply is not true as Ellis sits under the approach and departure areas at the end of Tracy Municipal Airport’s main runway!
 “Impact would be less-than-significant and no mitigation is required.” The EIR concludes that safety and noise impacts from airport are significant but unavoidable. All airport related impacts should an alternative location be selected.

21.1

These impacts are directly avoidable through relocating the project. The EIR must legitimately consider alternative locations and in this consideration consider the reduction of risk in an alternate location. The Ellis EIR must adequately address the many significant impacts of the development on the airport including current and future operations. The EIR does not legitimately consider alternative locations and the elimination of all airport related impacts should an alternative location be selected.

Additionally, Traffic, pipeline, RR, and school impacts are significant impacts that are not adequately addressed.

21.2

We express a number of serious non-compliance issues regarding many section of the DEIR. Of specific concern to Tracy Municipal Airport are all of the following sections and items:

- 1-2 to 1-6
- 3-3, 3-10, 3-13, 3-25
- 4.3-3, 4.4-1, 4.5, 4.7-22, 4.9-1 4.9-2, 4.9-7, 4.9-9, 4.9-10, 4.9-11, 4.9-14
- 4.10-6, 4.10-8, 4.10-13, 4.10-17, 4.10-23, 4.10-24
- 6-29

21.3

Each and every one of these items is in non-compliance with at least one and generally more of the following requirements:

The Tracy Municipal Airport Instrument of Transfer agreement with the US Government. The City of Tracy must “operate the airport property as an airport in perpetuity.” (forever).

Upon accepting federal airport grants, the City assured the federal government under Title 49, United States Code that it agreed to several grant assurances. The most important for the operation of the airport require the City to meet a number of requirements. Specifically related are B, C.20, and C.21.

B. Duration and Applicability. 1.

Continue to operate the facility as a public-use airport.

C. 20. Hazard Removal and Mitigation.

It will take appropriate action to assure that such terminal airspace as is required to protect instrument and visual operations to the airport (including established minimum flight altitudes) will be adequately cleared and protected by removing, lowering, relocating, marking, or lighting or otherwise mitigating existing airport hazards and by preventing the establishment or creation of future airport hazards.

C. 21. Compatible Land Use.

It will take appropriate action, to the extent reasonable, including the adoption of zoning laws, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations, including landing and takeoff of aircraft.

Public Utilities Code Section 21674.7 State Aeronautics Act.

City must use the most current safety and noise data from updated 2009 Airport Handbook.

Public Utilities Code Section State Aeronautics Act. Airport Hazard.

"Airport hazard" means any structure, object of natural growth, or use of land, which obstructs the air space required for flight of aircraft in landing or taking off at an airport or which is otherwise hazardous to the landing or taking off.

Public Utilities Code Section 21659 - Hazards Near Airports Prohibited

City of Watsonville vs. Watsonville Pilots Association
 City of Tracy/Surland vs. TRAQC

Of immediate concern at the Planning Commission hearing on August 22 was the City allowing, via the Ellis EIR, the reduction of the runway length to 3996 feet in direct conflict with Councils direction to Staff at the May City Council meeting to maintain the length at more than 4001 feet. Alternative 10 detailed below must be removed from the project as it violates every single one of the requirements and restrictions outlined above.

21.3
 cont

21.4

6-34 6.5.2 ALTERNATIVE 10: 1993 ALUCP RUNWAY LENGTH

Tracy Municipal Airport runway 08-26 would be 3,418 feet long and 100 feet wide and runway 12-30 would be 3,996 feet long and 100 feet wide (or as adjusted by the City's recent survey), as opposed to the 2009 ALUCP runway 8-26 length of 3,438 feet long and 100 feet wide and runway 12-30 length of 4,002 feet long and 100 feet wide.

1.8.2 ALTERNATIVE 10: 1993 ALUCP RUNWAY LENGTH

Under the 1993 ALUCP Runway Length Alternative (Alternative 10), all the same uses would develop as proposed by the Modified ESP (a minimum of 1,000 to a maximum of 2,250 residential units, 180,000 square feet of retail, office, and other commercial uses, and four acres of parks per 1,000 residents). Like the Modified ESP, three acres of Neighborhood Parks per 1,000 residents would be built throughout Ellis, and the one acre of Community Park per 1,000 residents requirement could be met with either the donation of land from the Project Applicant for a Family Swim Center or the payment of an in lieu fee. All underlying zoning would be Residential Mixed (TR-Ellis). However, under Alternative 10, the runway lengths at the Tracy Municipal Airport would be similar to those identified in the 1993 ALUCP, which are shorter than those identified in the 2009 ALUCP. Thus, under Alternative 10, runway 8-26 at the Tracy Municipal Airport would be 3,418 feet long and 100 feet wide and runway 12-30 would be 3,996 feet long and 100 feet wide (or as adjusted by the City's recent survey), as opposed to the 2009 ALUCP runway 8-26 length of 3,438 feet long and 100 feet wide and runway 12-30 length of 4,002 feet long and 100 feet wide.

21.4
cont

Another of the major flaws is detailed below. The Ellis location at the end of the Tracy Municipal Airport main runway creates two significant issues. First the arrival/departure of aircraft over the project at attitudes as low as 265 feet AGL creates significant safety and noise issues. These cannot be ignored as they are in the EIR.

21.5

"AIRPORT HAZARDS

Impact 4.9-2:

Implementation of the Modified ESP would result in the placement of people and structures within the flight approach to Tracy Municipal Airport.

Determination: Less than Significant Impact.

A portion of the ESP site is located within the 20

...

Given the special design considerations included in the 2009 ALUCP, as well as the low intensity of the proposed Limited Use designation, it is anticipated that implementation of the Modified ESP would not expose people or property to significant airport-related hazards. Furthermore, development within the airport sphere of influence would be subject to review and approval by affected regulatory agencies with jurisdiction over that portion of the Modified ESP site. However, it should be noted that for any discretionary reviews and /or approvals subsequent to the adoption of the Modified Ellis Specific Plan, the Project Applicant reserves the right to require that the land uses be subjected to the ALUCP in effect at the time of the application. As the Modified ESP would be in conformance with the 2009 ALUCP, and consistent with the special design considerations included in the ALUCP, impacts related to the placement of people and structures within the Outer Approach/Departure Zone would be considered less than significant. No mitigation measures are required.”

21.5
cont

Additionally, this significant issue outlined below is non-compliant.

“Impacts associated with airport hazards and airport land use compatibility are considered less than significant, since the 2009 Airport Land Use Compatibility Plan was recently adopted and incorporated the anticipated future development associated with the project into consideration as part of their analysis. In addition, all future developments within the Airport’s Sphere of Influence would be required to adhere to the regulations and requirements within the 2009 ALUCP as well as Federal Aviation Administration (FAA) regulations, and the City’s 1998 Airport Master Plan – Tracy Municipal Airport. Based on this, impacts associated with airport hazards are not considered cumulatively considerable.”

21.6

Another significant flaw in the EIR is in section 6-16.

“Finally, while each of these sites may reduce the Project’s exposure to airport and railroad-related noise impacts, they would be anticipated to result in similarly significant and unavoidable impacts on traffic and circulation, greenhouse gas emissions, and air quality. In addition, despite the fact that each of these off-site locations is located outside of the airport flight path, they were rejected as suitable alternative sites for the reasons described below.”

21.7

While other issues would remain constant with these alternate locations, the entire airport related impacts would be eliminated.

Additionally, The EIR cannot use the 1993 ALUP.

The report created from a multi-discipline study of two aircraft accidents during a two week period in 2008 in a neighborhood located at the end of North Las Vegas Airports main runway explains in detail why placing Ellis at the end of Tracy Airport's main runway is a bad idea. The City of Tracy should implement these findings AND apply them to Ellis.



One on the main conclusion of the report (available here: <http://download.aopa.org/epilot/2009/SJR3-Report.pdf>) is stated below:

"11. The cities of North Las Vegas and Las Vegas should be encouraged to enact legislation to prohibit the construction of new buildings, communication towers or other obstructions above

21.8

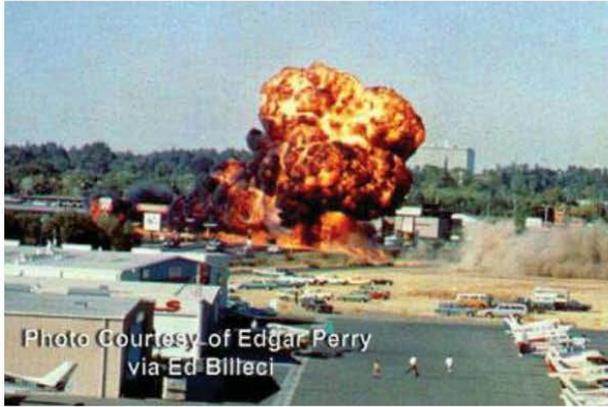
a safe height in the immediate vicinity of North Las Vegas Airport. Existing structures that may be determined to pose a hazard to air navigation near the airport should be evaluated using a cost and benefit analysis for alteration or removal. This will help eliminate the possibility of aircraft striking tall structures within the immediate vicinity of the airport.”

“12. The cities of North Las Vegas and Las Vegas should be encouraged to enact legislation to prohibit the further construction of residential housing or other non-compatible land uses within the immediate vicinity of North Las Vegas Airport. The City of North Las Vegas is addressing this issue in the current revision of its Zoning Ordinance (Title 17). As part of this process, North Las Vegas has also submitted its draft Air Terminal Environs Ordinances to the Clark County Department of Aviation for review and comment. This reduces the possibility of non-compatible development near the airport and aids in future community planning.”

21.8
cont

The reasons that we have safety zones near airports are detailed in the report available here: <http://www.airdisaster.com/reports/ntsb/AAR73-06.pdf>. The report addresses a very serious accident where 22 people were lost when an aircraft crashed into an ice cream parlor that was built across the street from a runway at Sacramento Executive Airport. This once again demonstrates why development does not belong at the end of airport runways. The plan is for Ellis to include a family swim center at the north end of runway 30/12 at Tracy. That is simply insane.



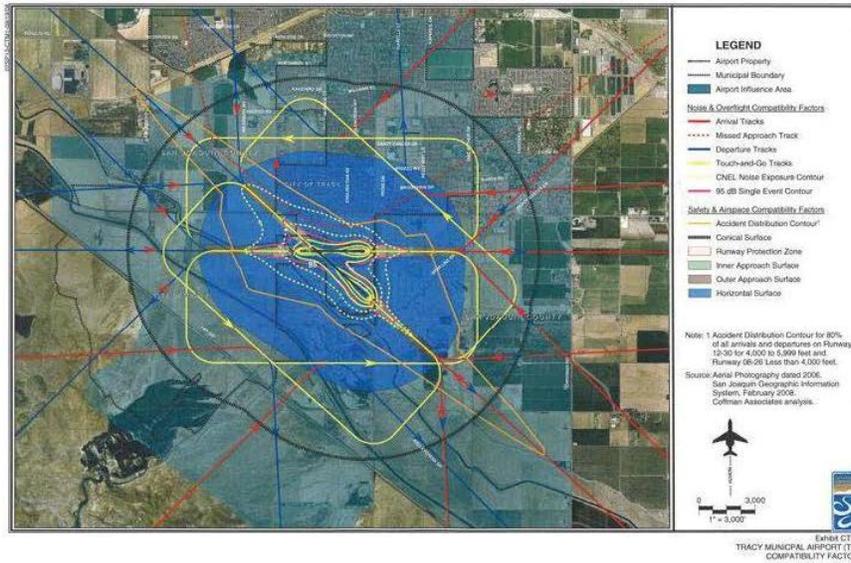


Below Navy fighter loses power on final approach and lands in a San Diego neighborhood.



21.8
cont

Both of these graphics below clearly show the means wherein Ellis will significantly interfere with operation at Tracy Airport. The graphic below shows the airport traffic patterns at Tracy.

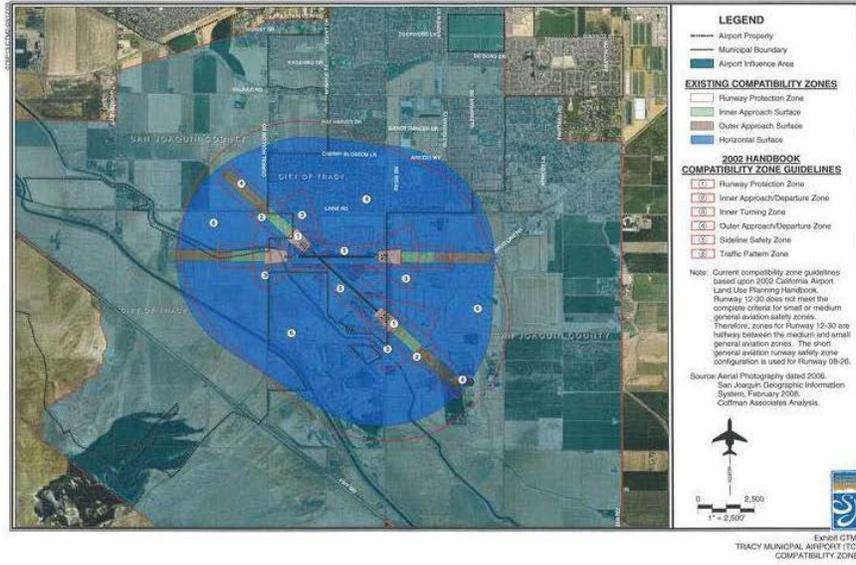


21.9

Accidents in the proximity of an airport fall in the zones as shown below.:

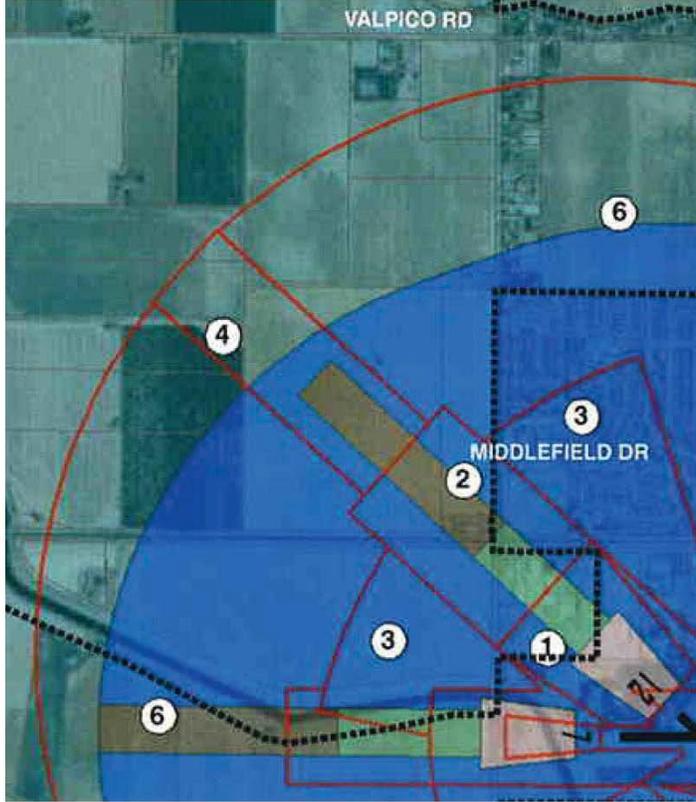
- Zone 1 21%
- Zone 2 10%
- Zone 3 7%
- Zone 4 5%
- Zone 6 23%
- Zone 1-6 85%

The graphic below illustrates the airport protection zones a laid out in the 2009 ALUCP.



21.9
cont

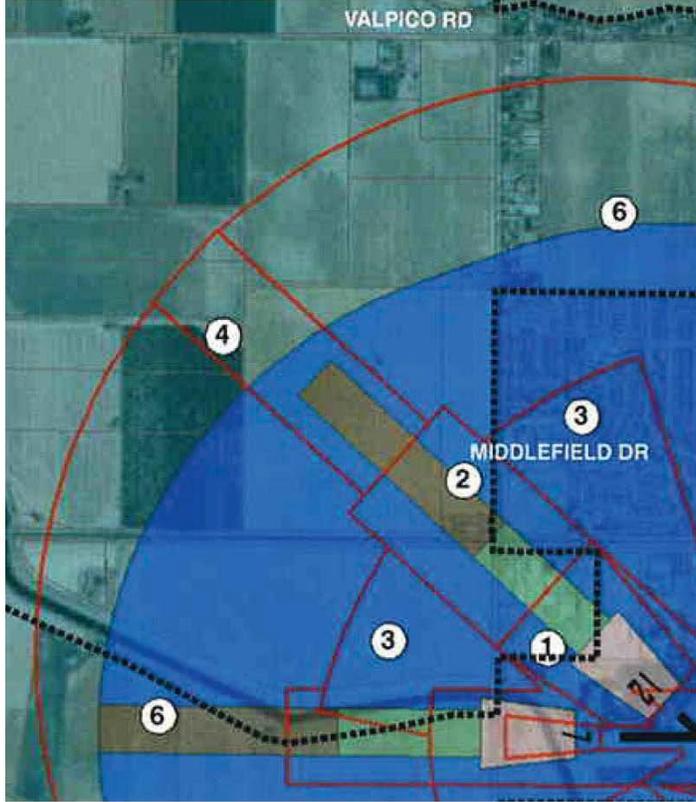
Zone 2: Inner Approach/Departure Zone



- *Risk Factors*
 - Substantial risk: together with RPZ encompass 30% to 50% of near-airport accidents
 - Overflown at low altitudes — typically only 200 to 400 feet above runway elevation
- *Basic Compatibility*
 - Prohibit residential uses except on large, agricultural parcels
 - Limit nonresidential uses to activities which attract few people (uses such as shopping centers, most eating establishments, theaters, meeting halls, multi-story office buildings, and labor-intensive manufacturing plants unacceptable)
 - Prohibit children’s schools, day care centers, hospitals, nursing homes

21.9
cont

Zone 3: Inner Turning Zone



21.9
cont

- *Risk Factors*
 - Aircraft turning from the base to final -descending from TPA
 - Departing aircraft transition from takeoff power and flap settings to a climb mode
 - Overflown at low altitudes — typically only 200 to 400 feet above runway elevation
- *Compatibility*
 - Limit residential uses to very low densities (*if not deemed unacceptable because of noise*)
 - Avoid nonresidential uses having moderate or higher usage intensities (e.g., major shopping centers, fast food restaurants, theaters, meeting halls – NO WATER PARK)
 - Prohibit children’s schools, large day care centers, hospitals, nursing homes

Zone 4: Outer Approach/Departure Zone



21.9
cont

- *Risk Factors*
 - Approaching aircraft usually at less than traffic pattern altitude
 - instrument approach procedures (as low as 255 ft AGL)
 - Straight-in or straight-out flight paths
- *Compatibility*
 - Limit residential uses to very low densities (*if not deemed unacceptable because of noise*);
 - Limit nonresidential uses as in Zone 3 – NO WATER PARK
 - Prohibit children’s schools, large day care centers, hospitals etc.

Zone 6: Traffic Pattern Zone



- *Risk Factors*
 - Generally low likelihood of accident occurrence at most airports
 - Risk concern primarily is with uses for which potential consequences are severe
- *Compatibility*
 - Allow residential uses (*if not deemed unacceptable because of noise*)
 - Allow most nonresidential uses; prohibit outdoor stadiums and similar uses with very high intensities – NO WATER PARK
 - Avoid children’s schools, large day care centers, hospitals, etc.

21.9
cont

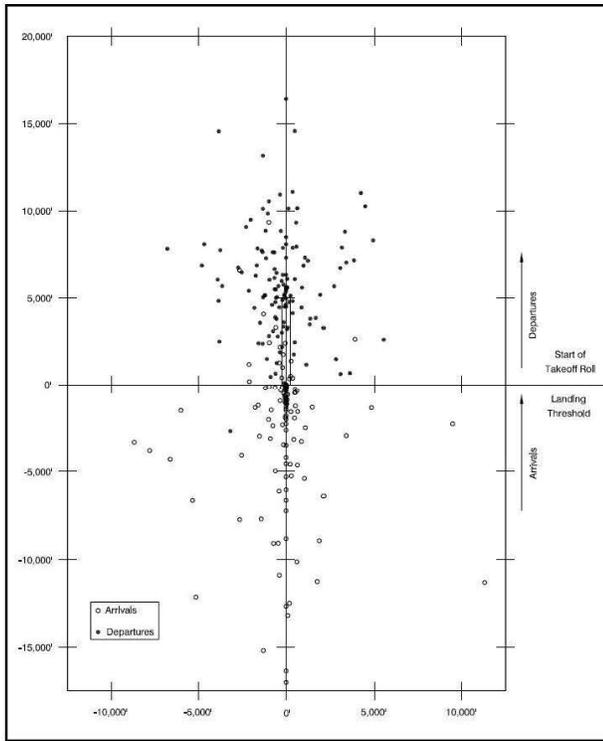
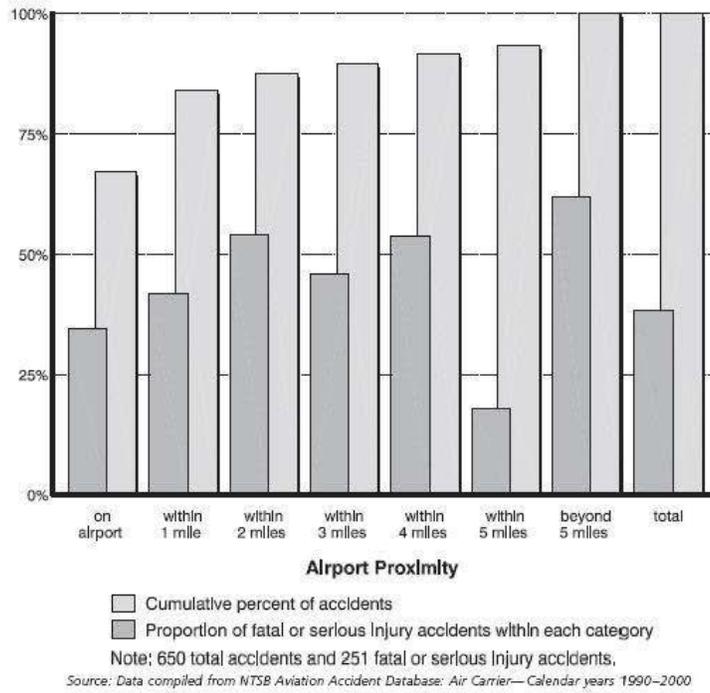
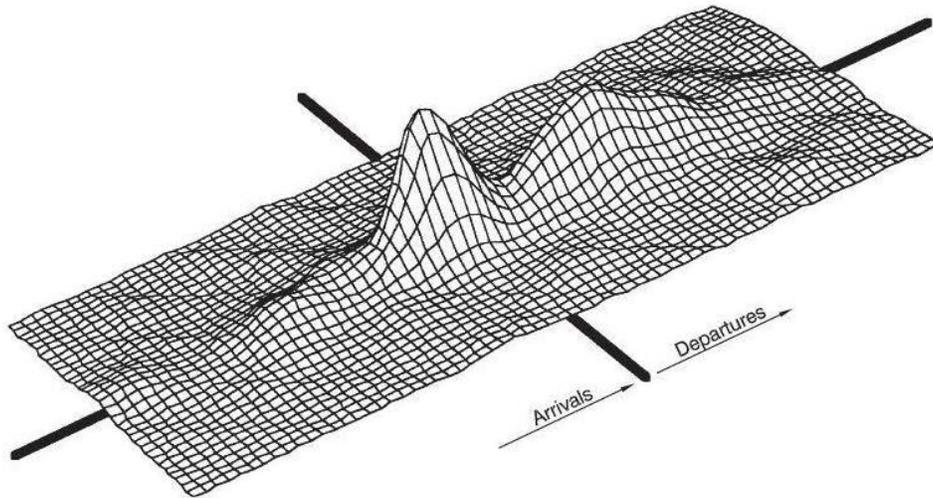


EXHIBIT F-5
Accidents on Runways of 4,000 to 5,999 Feet

21.9
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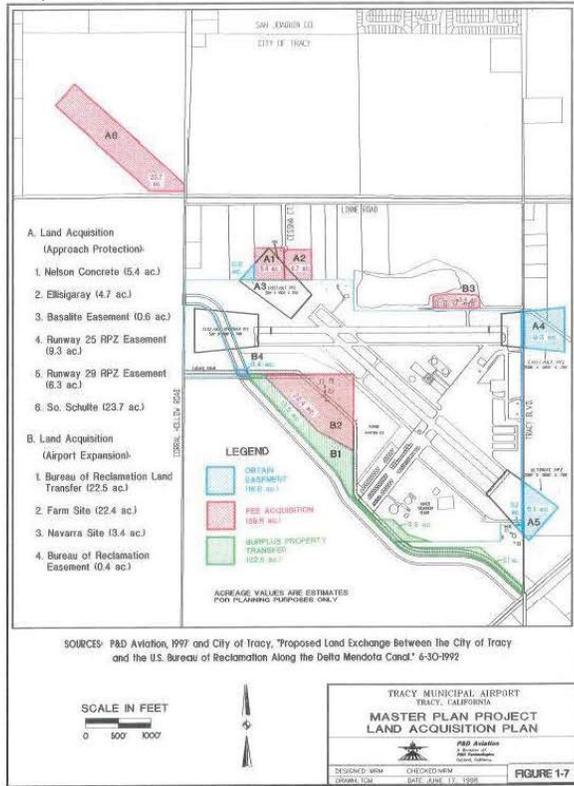
21.9
cont



Tracy Area Incidents
(from 1963)
114 total
2.5/year
28 fatal
.6/year
(from 1998)
18 total
1.8/year
6 fatal
.6/year

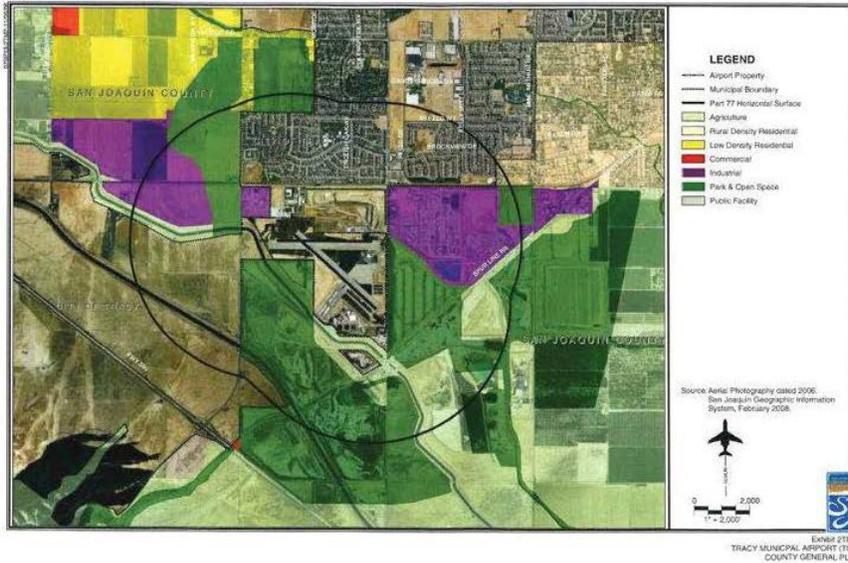
21.9
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The area in the Southeast corner of Ellis has been on the master plan land acquisition list prior to 1998.



21.10

The County General Plan Land Use for the area north west of the airport shows that area designates as park/open space.



21.11

Houses & Airports Don't Mix. It's been clearly demonstrated that housing and airports are incompatible land use.

- Aircraft are maneuvering at low altitudes in this area.
- Pilots require maneuvering room in the area of the airport
- Pilots require open space for emergency landings.

21.12

Failures to implement proper, effective safety zones and prevent airport encroachment:

- Demonstrates failure of the City of Tracy to exercise due diligence
- Would be an act of gross negligence should an accident occur
- Will at some point result in unnecessary injury or loss of life
- Will expose the City to tens or hundreds of millions of dollars in liability and injury claims
- Involve possible personal liability

21.13

Manned flight has been around for 100 years. Tracy Airport has been in operation for 80 of those years. Tracy Airport is a valuable local, county, state and national resource that must be protected. Tracy Airport, if protected, could be a huge economic driver for the City



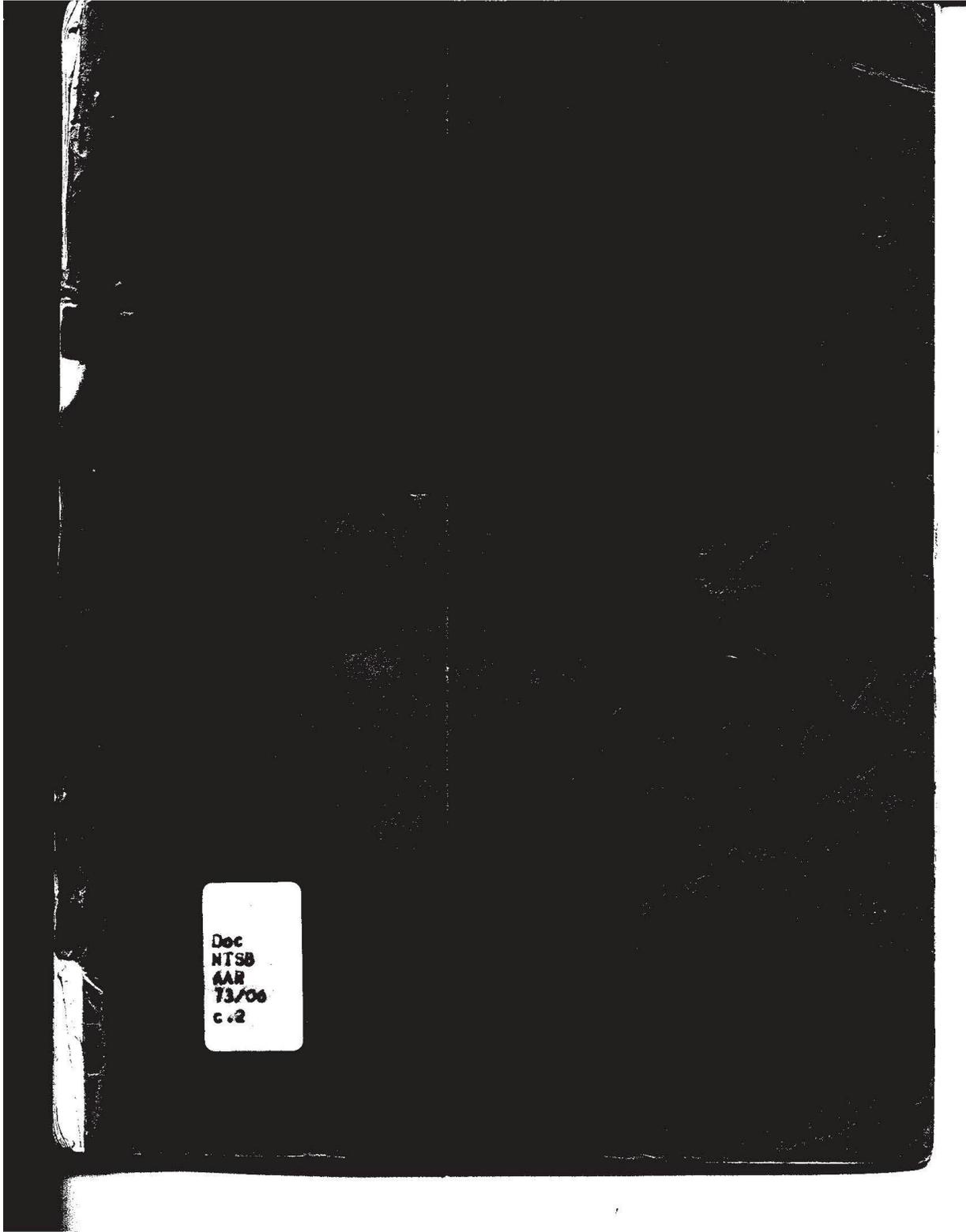
David Anderson
Vice President Tracy Airport Association
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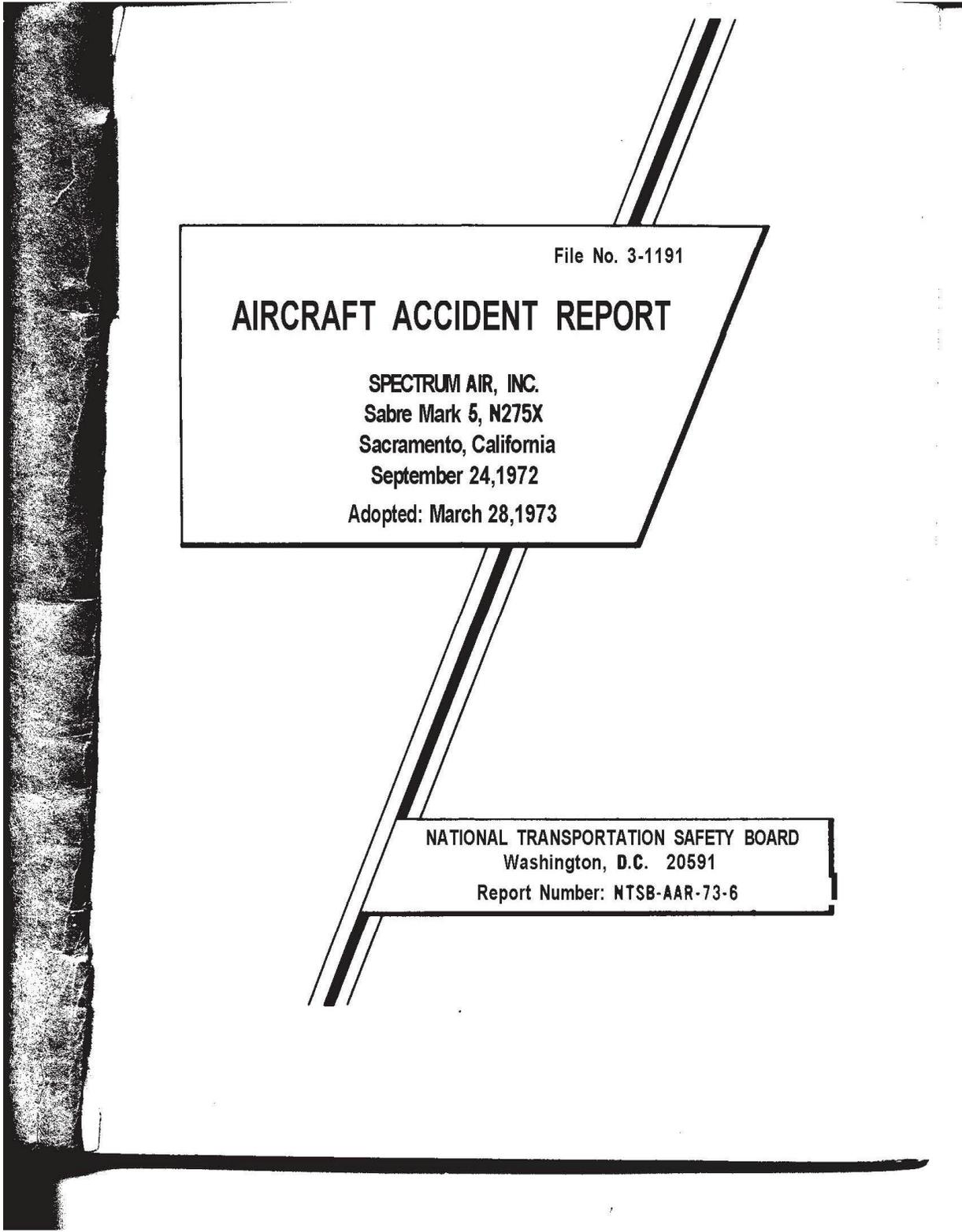
ATTACHMENTS:

Tracy Municipal Airport Instrument of Transfer
Title 49, United States Code subtitle VII – FAA Grant Assurances
North Las Vegas Airport SJR-3 Flight Safety Review and Recommendations
AAR73-06 AIRCRAFT ACCIDENT REPORT File No. 3-1191

CC:

Federal Aviation Administration
Aircraft Owners and Pilots Association
California Pilots Association





TECHNICAL REPORT STANDARD TITLE PAGE			
1. Report No. NTSB-AAR-73-6	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle Aircraft Accident Report- SPECTRUM AIR, INC., SABRE MARK 5, N275X SACRAMENTO EXECUTIVE AIRPORT, SACRAMENTO, CALIFORNIA SEPTEMBER 24, 1972		5. Report Date March 28, 1973	
		6. Performing Organization Code	
7. Author(s)		8. Performing Organization Report No.	
9. Performing Organization Name and Address National Transportation Safety Board Bureau of Aviation Safety Washington, D. C. 20591		10. Work Unit No. 1003A	
		11. Contract or Grant No.	
12. Sponsoring Agency Name and Address NATIONAL TRANSPORTATION SAFETY BOARD Washington, D. C. 20591		13. Type of Report and Period Covered Aircraft Accident Report September 24, 1972	
		14. Sponsoring Agency Code	
15. Supplementary Notes Aircraft Safety Recommendations A-72-219 through A-72-223 are included in this report.			
16. Abstract Spectrum Air, Inc., Sabre Mark 5, N275X, crashed during a rejected takeoff from Runway 30 at Sacramento Executive Airport, Sacramento, California, at approximately 1624 Pacific daylight time, on September 24, 1972. The aircraft collided with several automobiles and came to rest in an ice cream parlor across the street from the airport. Twenty-two persons on the ground were killed and 28 others, including the pilot, were injured. The aircraft was destroyed. The aircraft became airborne twice during the attempted takeoff, but each time returned to the runway. The pilot reported that the aircraft acceleration and control response were normal until he felt a vibration shortly after initial liftoff. He did not recall if it persisted through the subsequent liftoff and the rejected takeoff. The National Transportation Safety Board determines that the probable cause of this accident was the overrotation of the aircraft and subsequent derogation of the performance capability. The overrotation was the result of inadequate pilot proficiency in the aircraft and misleading visual cues. Five recommendations were made to the FAA.			
17. Key Words Overrotation, Inadequate proficiency, Surplus military aircraft		18. Distribution Statement Released to Public Unlimited Distribution	
19. Security Classification (of this report) UNCLASSIFIED	20. Security Classification (of this page) UNCLASSIFIED	21. No. of Pages 35	22. Price

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NTSB Form 1765.2 (11/70)

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SA-434

File No. 3-1191

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D. C. 20591
AIRCRAFT ACCIDENT REPORT

Adopted: March 28, 1973

SPECTRUM AIR, INC.. SABRE MARK 5, N275X
SACRAMENTO EXECUTIVE AIRPORT
SACRAMENTO, CALIFORNIA
SEPTEMBER 24, 1972

SYNOPSIS

Spectrum Air, Inc., Sabre Mark 5, N275X, crashed during a rejected takeoff from Runway 30 at Sacramento Executive Airport, Sacramento, California, at approximately 1624 Pacific daylight time, on September 24, 1972. The aircraft collided with several automobiles and came to rest in an ice cream parlor across the street from the airport. Twenty-two persons on the ground were killed and 28 others, including the pilot, were injured. The aircraft was destroyed.

The aircraft became airborne twice during the attempted takeoff but each time returned to the runway. The pilot reported that the aircraft acceleration and control response were normal until he felt a vibration shortly after initial lift-off. He did not recall whether it persisted through the subsequent liftoff and the rejected takeoff.

The National Transportation Safety Board determines that the probable cause of this accident was the overrotation of the aircraft and subsequent derogation of the performance capability. The overrotation was the result of inadequate pilot proficiency in the aircraft and misleading visual cues.

As a result of this accident the Safety Board recommended major changes in the regulations and procedures governing certification of aircraft in the experimental category and the control of pilots who fly them. Recommendations were also made in regard to the safety of persons and property around airports.

1. INVESTIGATION

1.1 History of the Flight

Spectrum Air, Inc., Sabre Mark 5, N275X, was flown from Oakland to Sacramento, California, to be exhibited as a static display at the Sacramento Executive Airport on September 24, 1972. This was the final day of the 2-day Golden West Sport Aviation Show. The pilot used Runway 29 for takeoff from Oakland International Airport, at approximately 1000.1/ En route to Sacramento, he rendezvoused with a friend who was flying a Grumman F-8 Bearcat, and they proceeded to Sacramento as previously arranged. Approximately 30 miles from Sacramento, the Sabre pilot requested permission for a low pass over the runway, and the tower subsequently cleared him for a low approach to Runway 30. The low pass was made at approximately 100 to 150 feet and 200 knots, in order to check the runway approach and landing area. During the low pass, the F-8 followed at a distance of approximately 3,000 feet. Normal landings were made and the Sabre was parked beside a Ford Trimotor, which was also owned by Spectrum Air, Inc. The Sabre remained parked in the roped static display area throughout the airshow.

During a break in the aerial display, at 1400, the pilot preflighted the Sabre in preparation for departure; however, an adequate starting unit was not found until about 1545. At this time the airshow was finished, and many aircraft were departing. Following a normal start and routine checking of various systems, the pilot requested, ". . . taxi VFR to Oakland. I'd like to use Runway two ah if the wind is right." The ground controller advised that Runway 30 was the active runway and that there would be a delay if he wanted Runway 2. The pilot advised that he couldn't wait too long because of fuel consumption. The ground controller then reported, ". . . Runway three zero, five thousand feet and the wind is three two zero at eight, can you handle that?" The pilot responded, "Yeah, as long as I don't have to wait for an hour out there." He was then given taxi instructions. As he approached the end of Runway 30, he was cleared into position to hold. At 1623:40, the controller advised, "Sabre Liner Seven Five X-ray, observe the two aircraft at the ah northwest field boundary climbing out ahead of you, cleared for takeoff." The pilot acknowledged, "Okay, thanks a lot huh," This was the last transmission from the aircraft.

1/ All times herein are Pacific daylight, based on the 24-hour clock, unless otherwise noted.

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The pilot stated that the flaps were in the takeoff position, and he completed the pretakeoff checklist. He checked throttle friction, emergency ignition, and engine instruments during the engine runup at the end of the runway. The exhaust gas temperature was 60° to 690° and the tachometer was indicating 97 to 98 percent r.p.m. He released the brakes and used nosewheel steering for directional control until his speed was approximately 60 knots. He then checked the engine instruments for the last time -- everything was normal. At 105 knots he applied sufficient back pressure to raise the nosewheel off the runway, and maintained that attitude. The aircraft became airborne within a few seconds. The takeoff roll and lift-off were normal in every respect. After a slight hesitation, preparatory to raising the landing gear, the pilot heard and felt an unusual vibration which startled him. The aircraft was no longer accelerating in a normal fashion, so he instinctively lowered the nose, confirmed that he still had full throttle, and was surprised that the aircraft settled back onto the runway. He did not recall whether the vibration ended, but acceleration seemed normal again so he dismissed a momentary thought of discontinuing, and resumed the takeoff attitude. The aircraft became airborne again; however, it was obvious to the pilot that the aircraft was not going to fly, and he began the rejected takeoff procedure. He closed the throttle, touched down, and continued straight ahead trying to slow the aircraft. Within a second he hit something and was airborne again. He shut off the "fuel switch" and shielded his face with his right arm. He was unable to control the aircraft as it continued across the street and into the building. The highest airspeed he observed at anytime was 120 knots.

The pilot stated that he rotated the aircraft on this takeoff the same as he always did. He established takeoff attitude by raising the nose until the farthest point on the runway disappeared. Although he looked to the right and to the left of the nose for reference, he did not use the horizon to establish the deck angle.

Statements were obtained from 18 eyewitnesses, and two 8-mm. movies of the takeoff were also received. The movies and witness information generally corroborated the takeoff as described by the pilot. The entire runway was used, and there were two separate lift-offs as the aircraft moved along the runway.

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1.2 Injuries to Persons

<u>Injuries</u>	<u>Crew</u>	<u>Passengers</u>	<u>Others</u>
Fatal	0	0	22
Nonfatal	1	0	27
None	0	0	

1.3 Damage to Aircraft

The aircraft was destroyed by impact and subsequent fire.

1.4 Other Damage

The airport perimeter fence and a fire hydrant were broken, several cars were damaged, and an ice cream parlor was damaged by impact, fire, and water.

1.5 Crew Information

Richard L. Bingham, aged 37, held airline transport pilot certificate No. 1670088, with ratings for airplane multiengine land and DC-3, and commercial privileges for airplane single-engine land and CV-PBY (VFR only). He held a certificated flight instructor certificate with an expiration date of April 30, 1974, and flight engineer (reciprocating engine powered) certificate No. 2039643. He also held mechanic certificate No. 1987269, with an airframe and powerplant rating, and a first-class medical certificate issued September 7, 1972, with no limitations. He stated that at the time of the accident, he had accumulated approximately 2,500 total flying hours, of which 600 hours were in jet aircraft, and 7.5 hours were in the Sabre Mark 5. His logbook indicated a total of 2,085 flying hours, including 342 hours in jet aircraft, 3.5 of which were in the Sabre Mark 5. The last entry in the logbook was dated September 17, 1972.

Mr. Bingham received a letter of authority, dated June 2, 1972, to fly the Sabre Mark 5 for proficiency. This letter expired June 9, 1972, but was replaced on June 6, 1972, by a letter permitting flight for proficiency or exhibition at bona fide airshows (see Appendix B). The issuing Federal Aviation Administration (FAA) inspector verbally stipulated that his office should be advised verbally anytime the aircraft was going to be exhibited.

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Mr. Bingham was employed as General Manager of Spectrum Air, Inc., in September 1971. He participated in the negotiations to purchase N275X and attended the 10-hour formal ground school which was given by a former F-86 pilot in May 1972. He received an additional 2 hours of emergency procedures and 2 hours of flight procedures instruction on the day of his first flight, June 6, 1972.^{2/} All ground instruction was monitored by an FAA representative. The initial flight consisted of performing basic airwork maneuvers, including approaches to a stall. The instructor monitored the flight by radio in a P-51 "chase plane," but he did not see the Sabre or issue any instruction to the pilot during most of the flight.

All of Mr. Bingham's takeoffs in the Sabre Mark 5 were made on Runway 29 at Oakland International Airport, except the accident flight. Runway 29 is 10,000 feet long, 150 feet wide, and is bounded at both ends by San Francisco Bay. He testified that, ". . . the sight that you see is different between Runway 30 (and) Oakland." There are visible obstructions at the end of the runway in Sacramento whereas, The Oakland runway runs right in the water and it's unlimited out there." He stated that, "I was told that on normal reference, not necessarily straight ahead, but out to the sides as well, that as I got the proper angle for rotation that I would just not quite be able to see the runway."

Mr. Bingham stated that he had retired at 2300 the night before the accident, and awoke at 0600 on the day of the accident. He had a normal breakfast and a snack for lunch.

1.6 Aircraft Information

Canadair, Ltd., Sabre Mark 5, N275X, was manufactured on September 19, 1954, with serial no. 1054. The aircraft was flown by the Royal Canadian Air Force for 300 hours and then placed in long-term storage on October 31, 1961. Periodic inspections were accomplished through June 19, 1967. The aircraft was first registered in the United States in July 1971, and purchased by Spectrum Air, Inc., on November 4, 1971. During the next 3 months the aircraft was worked on in Syracuse, New York, to prepare it for a ferry flight to California where it would be based. Although the maintenance performed during this period is unknown, it was described as routine to the activation of an aircraft from long-term storage.

^{2/} Although his first flight was logged on June 2, the aircraft acceptance test hop was not flown until June 3, and Mr. Bingham's initial flight was several days subsequent to the acceptance check.

- 6 -

Special airworthiness certificates were issued to ferry N275X on January 5, February 2, and February 22, 1972. Each was valid for approximately 3 weeks. The aircraft was ferried to Napa County Airport (California) in February 1972, and subsequently flown to Oakland International Airport in March 1972, where the airworthiness inspection was conducted. On May 8, 1972, the Oakland General Aviation District Office (GADO) issued a special airworthiness certificate in the experimental classification for the purpose of exhibition. The operating limitations imposed for the 1-year period of the certificate were as follows:

THIS LISTING SHALL BE ACCESSIBLE TO THE PILOT

This aircraft must be operated in compliance with the following limitations:

1. Flights are authorized only for the purpose of exhibiting the aircraft at bona fide airshows and exhibits, movement of the aircraft to exhibit locations, and proficiency flights by persons so authorized.
2. Each person operating this aircraft shall comply with the operating limitations prescribed in Federal Aviation Regulation Part 91, Section 91.42, and shall conduct all flights in accordance with applicable FAA air traffic and general operating rules.
3. All flights shall be conducted in such a manner that the aircraft will not present a hazard to persons or property.
4. Aircraft and aircraft engine operations shall be conducted in compliance with the military and/or manufacturer's limitations issued for the aircraft.
5. All flights shall be conducted during daylight hours.
6. This aircraft may not be operated in weather conditions below the minimums prescribed for VFR flight. Operations in positive control areas and route segments shall conform to the equipment and operational requirements of FAR 91.97 and FAR 91.170.
7. Operations of this aircraft may be conducted only by a pilot authorized under a Letter of Authority issued by the Administrator.
8. Any major change, alteration, or change of owner of this aircraft renders this airworthiness certificate invalid.

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1.7 Meteorological Conditions

The local surface weather observation, made by the National Weather Service observer following the accident was, in part, sky clear, visibility 30 miles, temperature 81° F., wind 320° at 7 knots, altimeter setting 29.87 inches.

1.8 Aids to Navigation

No aids to navigation were involved.

1.9 Communications

There was **no** difficulty with radio communication between the aircraft and the tower.

1.10 Aerodrome and Ground Facilities

Sacramento Executive Airport is located in a commercial/residential urban area approximately 3 miles southwest of Sacramento, California. There are three asphalt runways, each 150 feet wide. Runway 2, the instrument runway, is 6,003 feet long, and Runway 34 is 4,984 feet long. Runway 30 is 5,000 feet long, but the landing threshold for Runway 12, the reciprocal, is displaced 670 feet to meet approach slope criteria at the northwest end of the runway. The airport elevation is 21 feet, but the elevation at the northwest end of Runway 30 is 17 feet.

In January 1964, a shopping center was proposed for construction on commercially zoned property at the northwest corner of the airport. The FAA circulated particulars of the construction to various aeronautical interests in order to obtain their comments on the effect of the construction. There were four obstructions the height of which exceeded the then current standards of Section 77.27(b)(2)3/ by 9, 11, 13, and 14 feet.

3/ Part 77 is the Federal regulation governing "Objects Affecting Navigable Airspace." Part 77.27(b)(2) established an imaginary approach area surface for runways such as Runway 30 as follows: beginning at the end of the runway and extending 500 feet outward at the elevation of the approach end of the runway and then sloping upward at the ratio of 1 to 40, being 500 feet wide at the beginning and expanding uniformly to a width of 3,000 feet at the outer extremity, 10,000 feet from the end of the runway.

The airport manager and the California Aeronautics Commission objected to the construction on the basis that it would be a hazard not only to aircraft on approach to the runway, but also to persons **on the ground** who would be concentrated in the shopping center. The Air-Transport Association objected because it might result in a reduction of runway effective length, thereby forcing air carriers to operate at reduced gross weights. The construction proposal was discussed further at an informal meeting of all concerned. The FAA determined that the construction would not be a hazard to air navigation. The plans were modified **so** that the heights of only three points exceeded the standards by 11, 11 and 13 feet, and the shopping center was constructed.

On July 1, 1967, the County of Sacramento assumed operational control of the airport under a lease agreement. In October 1967 all air carrier operations were moved to the new Metropolitan Airport, and Executive Airport continued operation as a general aviation facility.

In December 1969, an addition to the shopping center was proposed, and the FAA again circulated the details for comment. It was noted that the proposed building, an ice cream parlor, exceeded the height standard by 5 feet. **No** objections were received, and the FAA determined that no hazard existed. However, the California Department of Aeronautics, in responding to a city zoning hearing, commented that the State's study indicated that other structures in the area of the new building were of equal height **so** that the addition had no substantive effect on the airport activity.

In January 1970, the FAA circulated another aeronautical study regarding the proposed construction of a sign for the ice cream parlor. The sign exceeded the standards of Part 77 by 26 feet, but this was later reduced to 21 feet. The California Department of Aeronautics indicated no objection if it was shadowed by other existing structures. The Director of Airports, on behalf of Sacramento County, objected to the construction because it was in the clear zone and exceeded the 40:1 slope by 14.5 feet. Also, the size of the sign (20 feet by 30 feet) would tend to confuse pilots during low visibility conditions. Once again, the FAA determined that no hazard existed because the sign had no greater adverse effect on aircraft operations than the existing obstructions, provided it had appropriate obstruction lighting. The California Department of Aeronautics also filed objection to the sign in the city's zoning variance process, and indicated that if the runway threshold was displaced sufficiently to eliminate the intrusion into the approach surface, they would withdraw their objection. As noted earlier, the threshold for Runway 12 was displaced.

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1.11 Flight Recorders

There were **no** flight recorders installed, and none was required.

1.12 Wreckage

The aircraft skid marks began approximately **40** feet from the end of Runway **30** and continued **453** feet over a sod overrun and a 25-foot-wide perimeter roadway. At this point the aircraft became airborne again, crashed through a chain link fence and a fire hydrant, and skidded across a 112-foot-wide divided highway. The aircraft came to rest approximately **800** feet from the end of the runway, less than **25** feet to the left of the extended runway centerline.

Both wings separated from the aircraft fuselage. The right wing separated at the wing/center section attach fitting. This forging was fractured longitudinally through the ribs, but all attach bolts were tight and in place. The aileron and flap were still attached. The left wing and center section were still intact as one assembly. The left aileron and flap had separated from the wing.

The right wing leading edge was crushed back to the front spar in two places, near the wing root and 2 feet inboard from the tip. The Pitot mast was separated at the leading edge, and the Pitot head was missing. Wood splinters were jammed into one end of the mast. The Pitot and static lines were intact and unobstructed from the wingtip to the inboard end of the wing. The Pitot and static lines in the fuselage were destroyed.

The fuselage forward of the cockpit bulkhead was destroyed. The forward cockpit bulkhead and instrument panel was bent forward and down approximately **30"**. The fuselage skin on both sides was buckled, burned, and melted in several places, from the cockpit aft to the area of the speed brakes. The lower fuselage skin was gone. Both speed brakes were in the open position. The aft fuselage section was attached, but the skin and tailpipe were buckled, with three deep wrinkles just aft of the speed brakes. The lower aft end of the fuselage and tailpipe were both dented and buckled upward. The vertical stabilizer and both horizontal stabilizers were damaged but intact. The rudder and left elevator remained attached, but the right elevator was separated.

All three landing gear assemblies separated from the aircraft. The main landing gear tires were inflated and showed **no** flat spots. The wheels and brakes rotated freely. The brake discs showed **no** signs of overheating, and the pads were undamaged. The nosewheel tire was deflated. The rim was dented on both sides and slightly spread.

The right and left flap jackscrews were partially extended and required 7-1/4 and 7-1/2 turns, respectively, to reach full extension.

1.15

The first two compressor stages of the engine had light foreign object damage, but there was no evidence of overtemperature or foreign object damage in the turbine. The engine rotor rotated freely.

The performance

Samples of fuel, oil, and hydraulic fluid were examined, and there was no evidence of contamination other than that due to the fire and sampling conditions.

The engine fuel control, two engine driven fuel pumps, and the fuel distributor assembly were functionally tested at the facilities of Orenda, Ltd. All units were capable of supplying the required amount of fuel to develop maximum rated thrust for takeoff at sea level and standard temperature.

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1.13 Fire

The aircraft external fuel tanks ruptured on the chain link fence, and other tanks failed as the aircraft continued skidding across the street into the ice cream parlor. The main fireball occurred on the airport side of the street, and the fire trail followed the aircraft into the building.

Airport fire and rescue units were located at the takeoff end and midpoint of Runway 30. Rescue 8, the pickup truck at the end of the runway, began moving down the runway in anticipation of the accident and crashed through the perimeter fence on the most direct route to the wreckage. All other vehicles also responded, and firefighting activity began within a highly commendable short period of time. Other units from the Sacramento Fire Department arrived at the site within 5 minutes. In addition, the sprinkler system in the ice cream parlor was activated by the fire.

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1.14 Survival Aspects

This was a survivable accident. The pilot exited the aircraft unassisted and crawled to a window of the building. He was assisted from the building by bystanders. Approximately 100 to 150 people were in the ice cream parlor at the time of the accident. Most of the survivors escaped unassisted through large windows of the building; however, many were assisted or carried out by spectators and firemen.

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1.15 Tests and Research

The aircraft handbook for the Sabre Mark 5 contains the following performance data for the conditions at the time of the accident:

- Nosewheel lift-off speed . . . 110 knots
- Takeoff speed 130 knots
- Takeoff distance 3,200 feet
- Distance to clear
50-foot obstacle , 4,600 feet

An 8-mm. movie of the takeoff was analyzed by making a series of 8 x 10 inch enlargments of every eighth frame, counting backward from the initial fireball. Various stationary landmarks in the background of each photograph were used to determine the angular displacement of the aircraft from the camera location, and also the distance the aircraft moved along the runway. The deck angle of the aircraft in each photograph was then measured and corrected for the distortion of that particular viewing angle. The groundspeed, based on camera frame speed and distance traveled, was calculated and the speeds were averaged for every three frames to minimize the effects of sighting errors, Finally, the height of the aircraft was established by calculation or estimated in relation to other photographs where calculations could not be made.

In summary, the initial lift-off occurred between 2,800 and 2,900 feet from the end of the runway at an airspeed of 124 knots. The deck angle was approximately 11° Aircraft Noseup (ANU). The airspeed and deck angle continued to increase to 130.5 knots and 15.5' ANU, respectively, At this time the deck angle kept increasing, but the acceleration stopped and the speed began decreasing. The aircraft was 2 feet above the ground, measured from the bottom of the main landing gear. The aircraft settled back to the runway at approximately 3,700 feet, as the nose attitude lowered to about 10° ANU and the velocity dropped to 128 knots. Within a few seconds the speed began increasing again and eventually reached a maximum of approximately 137 knots. However, the deck angle also increased markedly to over 16.5° ANU and remained in that attitude. During the same interval, the aircraft was approximately 5 feet above the runway. The aircraft touched down again 5,005 feet from the takeoff end of the runway and disappeared from the camera view.

The nose attitude of another Sabre Mark 5 aircraft was calculated from film made during a takeoff. Although the aircraft was not equipped with external fuel tanks, the initial lift-off attitude would not vary significantly from that of N275X. The attitude during the test takeoff was approximately 5° ANU.

1.16 Other

The Golden West Sport Aviation Show was a 2-day airshow sponsored by the Active 20-30 Club and Chapter 52 of the Experimental Aircraft Association, both of Sacramento. The purpose of the show was the static and aerial exhibition of "experimental and antique" aircraft. The proceeds were designated for charitable and aviation educational support. Preliminary planning for the airshow began in February 1972 with monthly meetings, and culminated in a formal Application for Certificate of Waiver or Authorization from the provisions of FAR 91.71(c) and (d)4/. The application, dated August 8, 1972, stipulated that all events would take place within the confines of Sacramento Executive Airport and listed three pilots with the aircraft that each would fly. The planned schedule of events, beginning at 0800, September 23, 1972, and ending at 1530, September 24, 1972, was attached.

On August 30, 1972, the Sacramento GADO issued a Certificate of Waiver or Authorization for "Acrobatic aerial demonstrations within the boundary of the Sacramento Executive Airport from the surface to 3,000 feet . . ." In addition to granting waivers from the provisions of FAR 91.71(c) and (d), the certificate also waived FAR 91.79(b) which establishes a minimum safe altitude over congested areas. Eighteen special provisions were listed for further compliance (see Appendix C) to promote safety, including authority for appropriate officials of the airshow or the FAA to stop the airshow for reasons of safety.

FAR 61.16(a) states that no person may act as pilot-in-command of turbojet aircraft unless he holds a type rating for the aircraft; however, an exception is granted when an authorization is issued by a Flight Standards District Office. Letters of authority are normally issued in the following circumstances:

- (a) Practice in a single-control aircraft to qualify for a type rating.
- (b) Ferry flight by a pilot who will not regularly fly the aircraft.
- (c) Test flight in an aircraft repaired or modified by an approved repair station or manufacturer.
- (d) Other specific flights considered safe under the existing circumstances if it is not practicable to require the type rating.

4/ FAR 91.71(c) prohibits acrobatic flight within a control zone or Federal airway. FAR 91.71(d) prohibits acrobatic flight below an altitude of 1,500 feet above the surface.

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The inspector is cautioned to issue letters of authority only if the pilot is qualified to complete the flight safely. This evaluation should consider:

- (a) Total pilot time.
- (b) Type ratings or military experience in similar aircraft.
- (c) Extensive pilot experience in aircraft with similar flight characteristics.
- (d) Current flight experience and pilot competency.

FAR Part 21 prescribes procedures for certification of products and parts, and subpart H deals specifically with the issuance of airworthiness certificates. Standard airworthiness certificates are issued for type certificated aircraft in the normal, utility, acrobatic, and transport categories. Special airworthiness certificates are issued for other categories including, among others, special flight permits and experimental. Special flight permits, effective for the period of time specified on the permit, are issued for aircraft that may not meet applicable airworthiness requirements, but which are capable of safe flight.^{5/} Experimental certificates are issued, for a maximum of 1 year, for the following purposes:

- (1) Research and Development.
- (2) Showing compliance with regulations.
- (3) Crew training.
- (4) Exhibition.
- (5) Air racing.
- (6) Market surveys.
- (7) Operating amateur-built aircraft.

An applicant for an experimental certificate must include in the application a statement of the purpose for which the aircraft will be used, enough data to identify the aircraft, and, upon inspection of the aircraft, any pertinent information found necessary to safeguard the general public,

^{5/} Examples of special flight permits may include: 1) flying the aircraft to a base for repair or storage; 2) delivering or exporting the aircraft; 3) production flight testing; 4) evacuating aircraft from areas of impending danger, etc.

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On November 9, 1972, the FAA issued a General Notice (GENOT) to all field offices on "future Civil Certification, Operation, and Maintenance of Military Surplus Jet Airplanes." The notice supplements applicable handbooks, in part, as follows:

- (1) Surplus military jets will not take off or land over densely populated areas; deviations will be approved at regional level.
- (2) Prior to participation in airshows with this type of aircraft, the pilot shall submit a resume of his participation in each exhibit. Flights for this purpose, including routes of flight takeoff, departure, approach and landing shall be approved by the FAA office involved.
- (3) A pilot will not be authorized to operate a surplus military jet unless:
 - (a) He shows evidence of having completed a military or manufacturer's checkout in that aircraft.
 - (b) He has flown as pilot-in-command of jet aircraft within the preceding 3 months and as pilot-in-command in the particular type during the preceding 12 months.
 - (c) He successfully demonstrates his knowledge of the aircraft and his flight proficiency by making three takeoffs and landings observed by an FAA inspector.

2. ANALYSIS AND CONCLUSIONS

2.1 Analysis

The aircraft was certificated in accordance with existing procedures, and there is no evidence of malfunction or mechanical failure which would have prevented a normal takeoff. The pilot reported that he felt and heard a vibration shortly after initial lift-off. Apparently, he was not sufficiently concerned to reject the takeoff at that point. He stated that when he lowered the nose, acceleration seemed normal again and he continued the takeoff. The Board believes that the vibration experienced was precipitated by disturbed airflow, because of excessive nose-high attitude during lift-off. Documentation of the excessive attitude, and proper thrust development by the engine, was found in the testimony of witnesses and the analysis of the 8-mm. movies of the takeoff. The aircraft pitch attitude during the initial lift-off was more than

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three times higher than that of the test Sabre Mark 5 aircraft, yet N275X reached a velocity of more than 130 knots in an exaggerated takeoff attitude twice on the 5,000-foot runway. Apparently, both times the aircraft remained airborne in ground effect as long as the pilot maintained the excessive noseup control input. Each time he relaxed the back pressure on the yoke the aircraft settled to the runway.

The overrotation was undoubtedly a function of (1) a lack of familiarity with the Sabre Mark 5 and (2) the effect of visual cues at Sacramento as opposed to Oakland. The pilot had logged a total of 3.5 flying hours in N275X, but claimed an additional 4 hours which were not logged. The only other "swept wing" experience he had was 31 hours logged as second-in-command in a Lockheed Jetstar. The remainder of his jet experience was accumulated in a Lear Jet as second-in-command. Although all jet experience provides a measure of exposure to the faster acceleration, and consequently to the quicker reactions required, very few models of aircraft are more sensitive to overrotation than Sabre-type aircraft. In this respect, the high thrust/weight ratio and relatively lower elevator power of the Lear Jet may have developed habit patterns which would increase the tendency of overrotation in the Sabre. For example, the Sabre Mark 5 has a lower thrust/weight ratio than the Lear Jet, but more effective elevator power at slow speeds. This combination results in the ability of the Sabre Mark 5 to achieve high angles of attack before flying speed is attained, with insufficient thrust to overcome the induced drag generated by the attitude. The application of excess noseup control in the Lear Jet, prior to reaching flying speed, generally does not result in an overrotated condition because the airspeed increases faster than the elevator effectiveness.

A second, and perhaps more significant factor, is the previously mentioned visual cues. The pilot was accustomed to establishing a takeoff attitude by reference to the environment around Runway 29 at Oakland, where the "wide open" expanse of San Francisco Bay creates a very indefinite horizon. This results in the visual impression of an "unlimited" runway. Actually the horizon would appear to recede as the aircraft moved along the runway. Under these circumstances, takeoffs by the inexperienced pilot were accomplished with little likelihood of overrotation. Although the pilot established a takeoff attitude by reference to the amount of runway remaining, the actual lift-off attitude is determined by the length of the runway and the sensory illusion that the end of the runway was still quite distant.

In contrast to the environment at Oakland, Runway 30 at Sacramento is closely surrounded by trees, buildings, water towers, and other objects which create a well-defined horizon. During this takeoff -- the pilot's first from another runway in the Sabre -- the short length of the

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runway and the nature and proximity of the objects comprising the horizon would combine to accentuate the rate of closure. Additionally, the angular measurement from the pilot's eye level at a normal lift-off point to the apparent horizon of each runway would increase at a significantly greater rate at Sacramento. The rapid change in viewing angle would magnify the apparent height of the objects at the end of the runway and, in combination with the rate of closure, would result in a sense of urgency about becoming airborne as soon as possible. Considering his experience in the aircraft, and the very misleading but compelling visual cues, it is easily understood why the pilot rotated the aircraft to as much as 17° ANU.

Although this accident was a result of pilot technique, which has been discussed in detail, the catastrophic consequences resulted from two entirely separate circumstances: (1) inadequacies in the rules governing the operation of experimental aircraft; and (2) the location of the ice cream parlor.

The pilot was restricted from operating N275X from any airport other than Oakland or Sonoma County, except for exhibition. When the aircraft was exhibited at a bona fide airshow, the only airport restriction was that imposed by the performance capability of the aircraft. If there had been no airshow, N275X would not have been authorized to land or take off from Sacramento. Consequently, the rejected takeoff must be considered as directly related to the airshow, even though N275X was not specifically identified as part of the airshow.

The inadequacies of the rules governing operation of experimental aircraft are, perhaps, best demonstrated in a comparison of the provisions before and after the accident. The generalized statements concerning pilot qualification for a letter of authority were changed to require a military or manufacturer's checkout and recent pilot-in-command experience in jet aircraft. The previous certification requirement, for a statement of the purpose for which the aircraft will be used, is now expanded by a requirement to submit a resume each time the aircraft is to be exhibited. The resume must include all routes of flight, arrival, and departure, which must be approved by the FAA office involved. Takeoffs or landings over densely populated areas must now be approved at the regional level. It is obvious that the pilot of N275X could not qualify for a letter of authority under the new directive because he had not completed the appropriate training and because he lacked the pilot-in-command experience. Additionally, there is a possibility that the proposed exhibition might have been rejected if a resume had been presented to the FAA Western Region, as now required. Even assuming that the region approved the flight into Sacramento Executive Airport, some runway restriction would have been imposed because of the

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horizontally, the off-significance of the result. The shopping center which limited the port in the area. The mental process required to be used, air flight, involved. It would not be the same as had a relative of the

populated areas surrounding certain runways, The Safety Board supported the FAA in the remedial action accomplished by the GENOT, issued November 9, 1972, and formally recommended that the provisions governing pilot qualifications be expanded to include pilots of any high-performance surplus military aircraft.

The second circumstance which added to the catastrophe was the location of the ice cream parlor. The construction of the shopping center was accomplished in accordance with existing statutes of the various jurisdictions. Although some of the structures exceeded the height standards of Part 77, the FAA determined that the obstructions did not constitute hazards to air navigation. The city, county, and State governments all generally agreed that once the shopping center was built, the subsequent addition of the ice cream parlor and sign had little effect on aircraft operations. This conclusion was an obvious extension of the initial rationale that "... the construction (of the shopping center) would affect operations no differently than other existing structures such as a gasoline sign, television antennas, traffic signal standards, etc." Additional aspects of this accident were discussed in the Board's recommendation to the Federal Aviation Administration (see Appendix E).

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2.2 Conclusions

(a) Findings

1. The aircraft was certificated in accordance with existing regulations.
2. The pilot was certificated and held a valid letter of authority for the flight.
3. The regulations and procedures concerning certification of experimental aircraft, and issuance of letters of authority for pilots, were inadequate.
4. The aircraft was capable of taking off from Runway 30 without incident, under the conditions at Sacramento.
5. The differences between the horizon and runway length at Oakland and Sacramento created visual illusions that induced an apparent need for rapid lift-off at Sacramento.
6. The pilot did not have sufficient experience in the Sabre Mark 5 to enable him to compensate for the misleading visual cues.
7. The catastrophic consequence of this accident is directly attributed to the proximity of the shopping center to the runway.

March 28

(b) Probable Cause

The National Transportation Safety Board determines that the probable cause of this accident was the overrotation of the aircraft and subsequent derogation of the performance capability. The overrotation was the result of inadequate pilot proficiency in the aircraft and misleading visual cues.

3. RECOMMENDATIONS

As a result of the investigation of this accident, the Safety Board on December 28, 1972, issued five recommendations (Nos. A-72-219 through 223) directed to the Administrator of the Federal Aviation Administration. Copies of the recommendation letter and the Administrator's response thereto are included in Appendices E and F, respectively.

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BY THE NATIONAL TRANSPORTATION SAFETY BOARD

/s/ JOHN H. REED
Chairman

/s/ FRANCIS H. McADAMS
Member

/s/ LOUIS M. THAYER
Member

/s/ ISABEL A. BURGESS
Member

/s/ WILLIAM R. HALEY
Member

March 28, 1973

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APPENDIX A

INVESTIGATION AND HEARING

1. Investigation

The Board received notification of this accident at approximately 1800 on September 24, 1972, from the Federal Aviation Administration. An investigating team was dispatched to the scene of the accident. Working groups were established for Operations, Maintenance Records and Performance, Human Factors, Airworthiness, and Airport Environment. The Federal Aviation Administration and Spectrum Air, Inc., participated in the investigation as interested parties. The on-scene investigation was completed on October 4, 1972.

2. Hearing

A public hearing was held at Sacramento, California, on October 16, 1972. Parties to the hearing included the Federal Aviation Administration and Spectrum Air, Inc.

3. Reports

There was no preliminary report on this investigation.

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FEDERAL AVIATION AGENCY
- 23 -
CERTIFICATE OF WAIVER OR AUTHORIZATION APPENDIX C

ISSUED TO
Jerry L. Worthington, Chairman
Golden West Sport Aviation Show

ADDRESS
701 Wales Drive
Folsom, California 95630

This certificate is issued for the operations specifically described hereinafter. No person shall conduct any operation pursuant to the authority of this certificate except in accordance with the standard and special provisions contained in this certificate, and such other requirements of the Federal Aviation Regulations not specifically waived by this certificate.

OPERATIONS AUTHORIZED

Acrobatic aerial demonstrations within the boundary of the Sacramento Executive Airport from the surface to 3,000 feet mean sea level.

Area of operation: Sacramento, California

LIST OF WAIVED REGULATIONS BY SECTION AND TITLE
 FAR 91.71(c) - Acrobatic flight within a control zone or Federal Airway.
 FAR 91.71(d) - Acrobatic flight below an altitude of 1,500 feet above the surface.
 FAR 91.79(b) - Altitude over congested areas.

STANDARD PROVISIONS

1. A copy of the application made for this certificate shall be attached to and become a part hereof.
2. This certificate shall be presented for inspection upon the request of any authorized representative of the Administrator of the Federal Aviation Agency, or of any State or municipal official charged with the duty of enforcing local laws or regulations.
3. The holder of this certificate shall be responsible for the strict observance of the terms and provisions contained herein.
4. This certificate is nontransferable.

NOTE.—This certificate constitutes a waiver of those Federal rules or regulations specifically referred to above. It does not constitute a waiver of any State law or local ordinance.

SPECIAL PROVISIONS

Special Provisions Nos. _____ to 19, inclusive, are set forth on the reverse side hereof. attached pages
XXXXXX-XXXXXX

This certificate is effective from 11:30 8-24-72 to 12:30 8-24-72, inclusive, and is subject to cancellation at any time upon notice by the Administrator or his authorized representative. Coordinated with: SAC PCB, SAC LCA

BY DIRECTION OF THE ADMINISTRATOR:

George J. Schwab
George J. Schwab
(Signature)

Western
(Region)

8-30-72
(Date)

Chief, General Aviation District Office
(Title) **WE-3AUG-12**

FAA Form 663 (12-64) USE PREVIOUS EDITION

0052-035-4000

(2711)

SPECIAL PROVISIONS

1. Acrobatic aerial demonstrations shall not be conducted over congested areas of cities, towns, or settlements. This does not prohibit normal flight of aircraft conducted in accordance with Section 91.79 of the Federal Aviation Regulations. Abnormal break maneuvers (rolls exceeding 90°) are considered acrobatic.
2. All acrobatic aerial demonstrations by aircraft operating at speeds in excess of 130 knots shall be conducted at least 1,500 feet horizontally from the designated spectator area. All acrobatic aerial demonstrations by aircraft operating at speeds of 130 knots or less shall be conducted at least 500 feet horizontally from the designated spectator area. Normal takeoffs and landings shall not be considered as part of the demonstrations; however, no takeoff or landing shall be made toward or over the designated spectator area.
3. Federal Aviation Regulations, Section 91.79(b), is waived only with respect to open air assembly of persons and only to the extent authorized in Special Provision No. 2 of this Certificate.
4. All acrobatic maneuvers shall be conducted in a direction which will most nearly parallel the boundaries of the designated spectator area or in a direction away from such area.
5. Acrobatic aerial demonstrations are not authorized if the visibility is less than five (5) miles and the ceiling is less than 2,500 feet at the time of the demonstration. Acrobatic maneuvers shall be conducted at least 1,000 feet below the ceiling. These minimums may be modified by the Federal Aviation Administration (FAA) monitor within the limitations set forth by established FAA policy.
6. Adequate oral or visual communications capability shall be provided to advise spectators and participants that the aerial demonstration has been halted or canceled, or to otherwise communicate with these parties as required to maintain a safe operation.
7. A physical barrier and adequate policing shall be provided to confine spectators to designated areas.
8. The demonstration shall be halted when unauthorized persons or aircraft enter the operations area, or for any other reason, in the interest of safety.
9. All participants shall attend the pre-demonstration briefing, that will be conducted by the holder, and acknowledge in writing that they understand the Certificate of Waiver or Authorization, including the Special Provisions and location of all deadlines.

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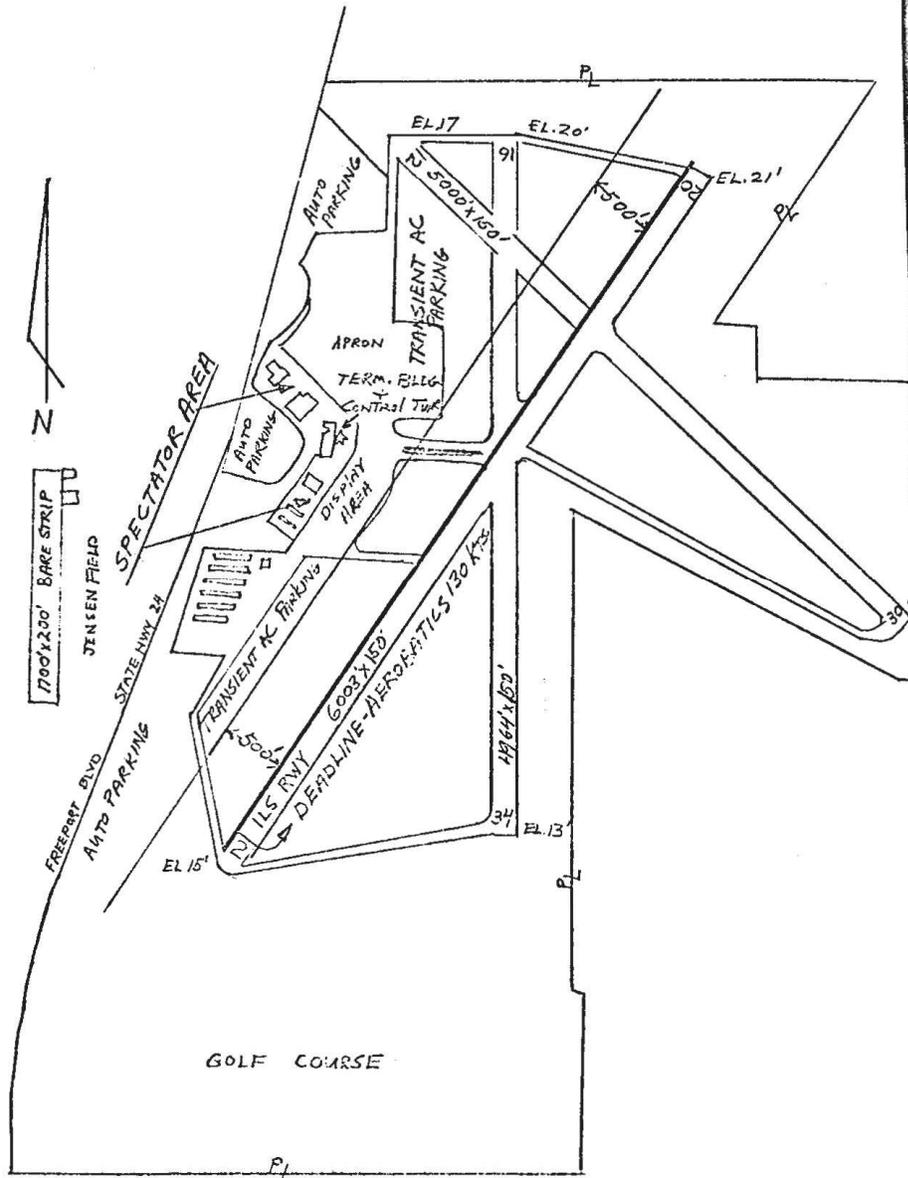
10. Deadlines, man-made or natural, readily visible to the participant, shall be provided by the holder to ensure that aircraft remain the approved distance from the spectators. Such deadlines shall be agreed upon by the FAA representative prior to any demonstrations.
11. Aircraft shall not be taxied nor their engines started in designated spectator or static display areas, unless appropriate measures are taken to preclude creating a hazard to spectators.
12. The holder shall establish a central control point from which he or his representative shall direct the demonstrations and be immediately available during the demonstrations for coordination with the FAA representative.
13. The holder shall notify the Sacramento Flight Service Station Telephone No. 916/449-3234/3176 of the date, time, place, altitudes, nature and direction of the operations, and request that a Notice to Airmen be disseminated. Such action shall be accomplished at least 48 hours prior to the demonstration time.
14. The holder shall have the responsibility to temporarily halt or cancel the authorized operations if at any time the safety of persons or property, on the ground or in the air, is in jeopardy or if there is a contravention of the terms or conditions of the Waiver.
15. The FAA representative designated to monitor the demonstration shall have the authority to temporarily halt or cancel the authorized operations if he finds that the holder has failed to do so, and the safety of persons or property, on the ground or in the air, is in jeopardy, or if there is a contravention of the terms or conditions of the Waiver.
16. All civil aircraft and pilots scheduled for participation in the events shall be made available for FAA inspection prior to the event. If, in the opinion of the FAA representative, pilot competency or airworthiness of an aircraft is unsatisfactory, such pilots or aircraft shall not be permitted to participate.
17. Contravention of any provision of this certificate will constitute a violation of Section 610(a)(5) of the Federal Aviation Act of 1958 as amended.
18. All participants in aerobatic demonstrations must hold a currently effective Letter of Competence issued by an FAA General Aviation Operations Inspector. Participants will perform only those maneuvers listed in their preplanned routine and no substitutions will be permitted without prior approval of the Flight Standards Service Inspector.

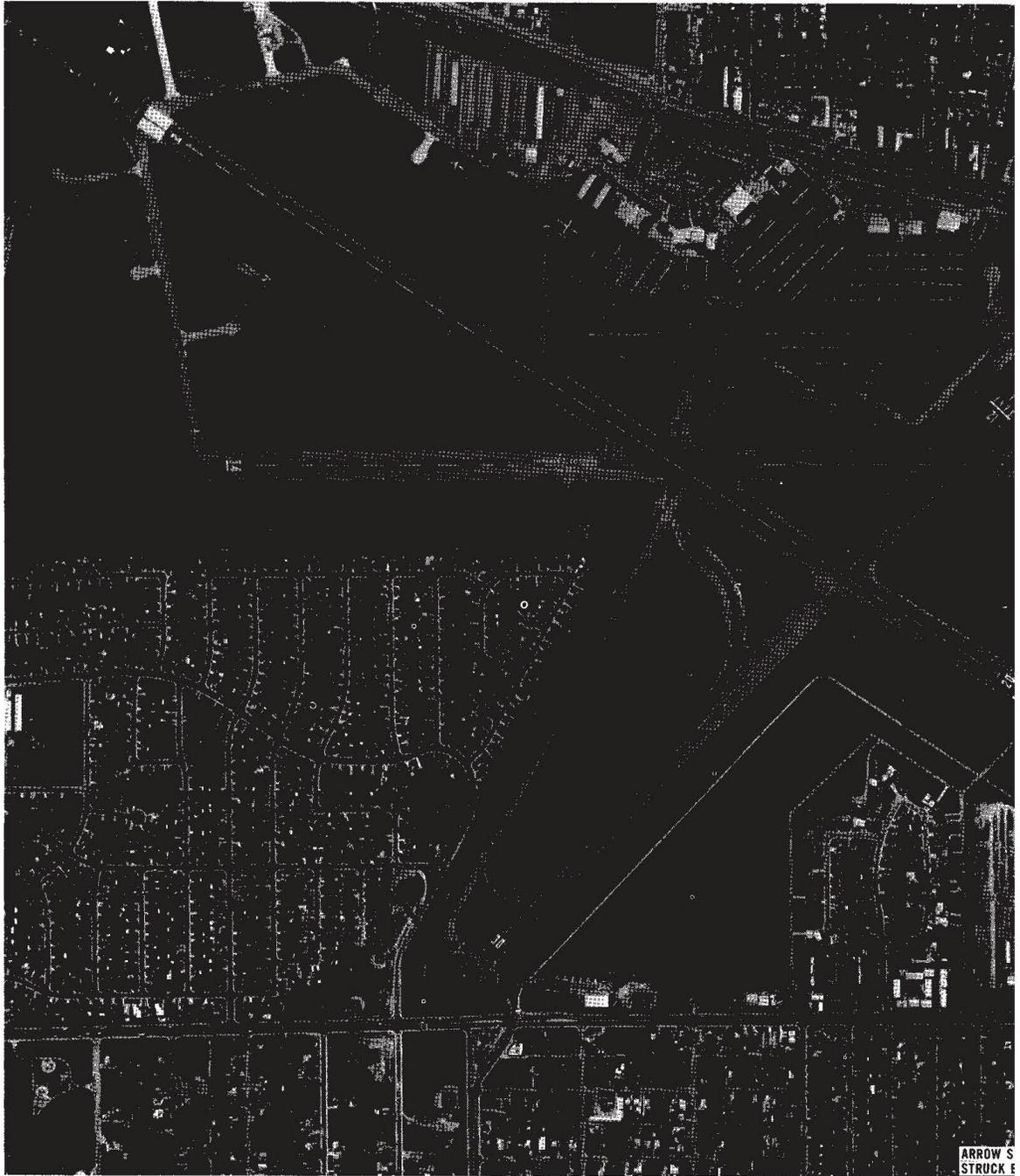
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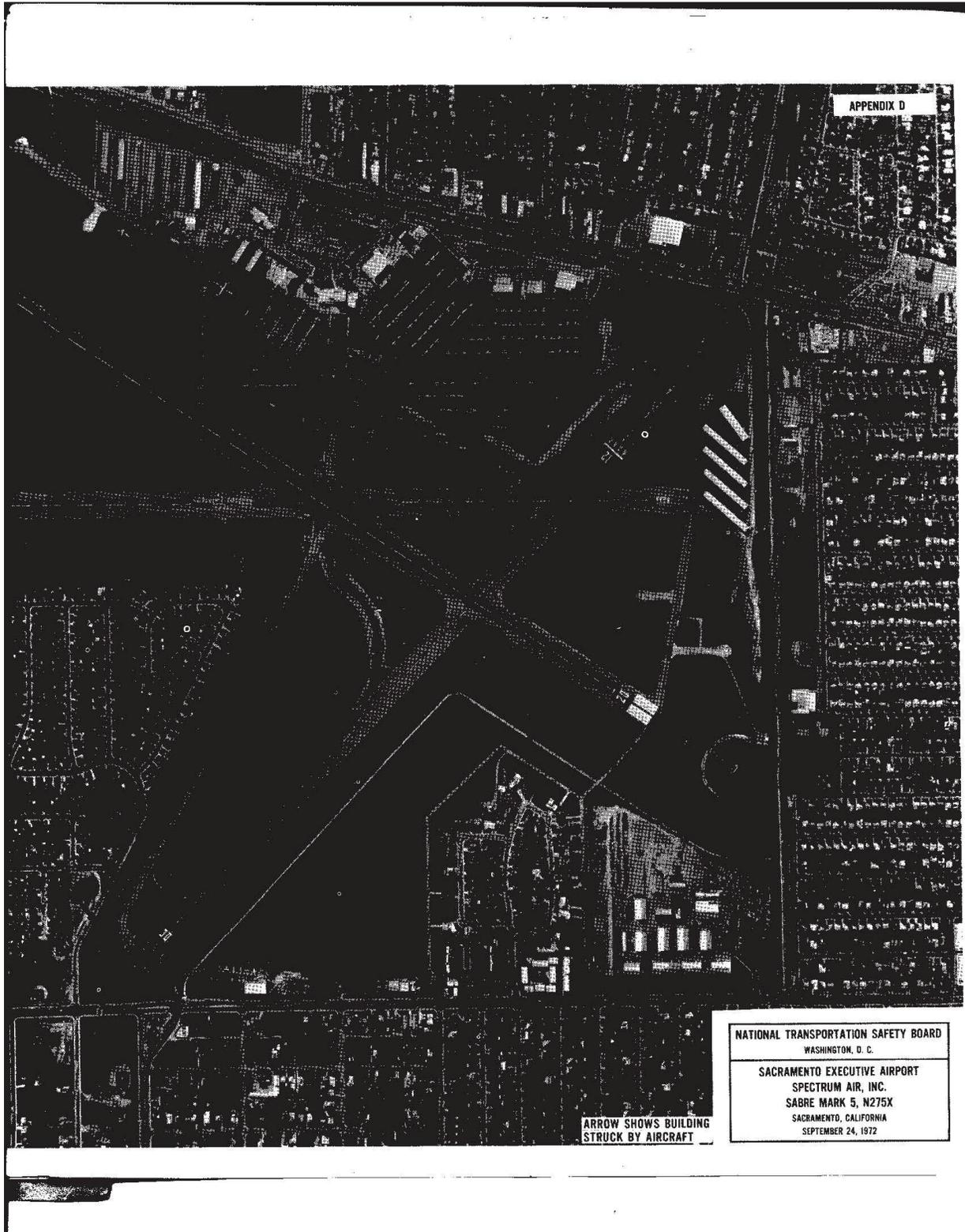
Golden West Sport Aviation Show
Sacramento, California September 23 & 24, 1972

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APPENDIX D

Sacramento Executive Airport
Sacramento, California







UNITED STATES OF AMERICA
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: December 28, 1972

Adopted by the NATIONAL TRANSPORTATION SAFETY BOARD
at its office in Washington, D. C.
on the 13th day of December 1972

.....
FORWARDED TO:)
Honorable John H. Shaffer)
Administrator)
Federal Aviation Administration)
Department of Transportation)
Washington, D. C. 20591)

SAFETY RECOMMENDATION A-72-219 thru 223

In the course of the investigation of the September 24, 1972, accident in Sacramento, California, involving Canadair Ltd., Sabre Mark J, N275X, the National Transportation Safety Board examined the pilot's proficiency for the operation, the certification of experimental aircraft, and the associated regulatory provisions. The airport's environmental aspects, which had a direct bearing on the catastrophic consequences of this accident, were also considered.

The aircraft was operated under a Special Airworthiness Certificate with an experimental classification for exhibition purposes. The operating limitations stipulated, among other things, that the aircraft could be operated only by a pilot authorized under a letter of authority issued by the Administrator. The pilot involved held such a letter, which authorized him to operate this aircraft for the purpose of pilot proficiency and exhibition flying. The letter limited his proficiency operations to an area within 100 miles of two specified airports and limited the takeoffs and landings for proficiency flights to those airports, except for emergency reasons.

The restrictions imposed upon the pilot in connection with his proficiency flying contrasted strongly with the lack of restrictions on his operation of the aircraft for exhibition purposes. Part 21 of the Federal

Honorable John H. Shaffer

APPENDIX E

Aviation Regulations defines exhibition, in part, as "exhibiting the aircraft's flight capabilities, performance, or unusual characteristics at airshows." Testimony during the public hearing in Sacramento on October 16-18 revealed that neither the pilot nor the operations inspector of the General Aviation District Office involved were aware of the extent of the flying activities covered by this definition. The operations inspector who prepared the pilot's letter of authority stated that the pilot could legitimately have flown this aircraft to a bona fide airshow for exhibition purposes following his first flight in it.

Based on this and similar testimony, the Board concludes that the guidelines dealing with the issuance of authorization to operate this type aircraft were too broad to provide adequate guidance for General Aviation District Office inspectors with regard to pilot qualification and proficiency and the formulation of safeguards in the special conditions and limitations

The Board is aware of the GENOT (General Notice) distributed to your regional, district, and field offices on November 9, 1972, entitled: "Future Civil Certification, Operation, and Maintenance of Military Surplus Jet Airplanes." These supplemental guidelines should help in the interpretation of existing instructions with regard to the safe utilization of surplus military jets. However, the Board is of the opinion that similar consideration should be given to all high-performance military surplus airplanes, reciprocating as well as turbine engine powered. Unless a pilot receives his transition training from an organization or club that imposes its own safeguards, there appear to be no constraints on a private pilot with minimum experience who wishes to operate an F-51, for example. The establishment of reasonable minimum standards in this area would serve to promote aviation, rather than inhibit it.

In view of the variety of purposes for which experimental certificates can be issued, it appears that separate classification of those activities which are not truly experimental would facilitate the exercise of more selective regulatory control for the benefit of the operator as well as the general public.

The Board is also concerned about the airshow waiver provisions, although they did not have a bearing on this accident. The special provisions dealing with the separation criteria between spectator areas and aircraft performing acrobatic maneuvers took into consideration only the safety of designated spectator areas. At Sacramento Executive Airport, residential encroachment extended to within about 500 feet of the demonstration runway. In addition, the Board questions the adequacy of the

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Honorable John H. Shaffer

APPENDIX E

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guidelines in the General Aviation Operations Inspector's Handbook that use a cruising speed of 130 knots as a criterion for "Dead Line" separation from spectator areas during airshows; in excess of 130 knots, the minimum is 1,500 feet and at lower speeds it is 500 feet. Although this rule may be suitable for the protection of designated spectator areas that parallel the demonstration runway, it does not take into account the potential trajectory of disassociated aircraft parts and their hazard to persons and property in the line of flight, near the airport boundaries.

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The built-up area around the Sacramento Executive Airport raises serious questions with regard to the suitability for airshows of this and similar airports, especially when one considers the practicability of applying the following sample of a special provision from the pertinent handbook: "The holder of the airshow waiver shall insure that roads adjacent to the airport, as specified below, are devoid of vehicular traffic and the property adjoining the airport shall be free of spectators." This provision was not incorporated in the certificate of waiver for the Sacramento airshow; if it had been, it would have been very difficult to implement. In this respect, it is of interest to note that the 92 accidents that occurred during airshows or air racing in a recently researched 8-year period (1964-1971) did not result in injuries to other than aircraft occupants. The Board is of the opinion that open space around most of the airports involved played a predominant role in protecting public and property beyond the designated spectator areas.

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With regard to the catastrophic consequences of this accident, the public hearing produced no evidence of specific regulatory provisions, or firm guidelines, at the Federal, State, or local level, that would have precluded the construction of public or private facilities in such close proximity to the departure end of Runway 30. The Board is unable to find any direct reference to the safety of persons or property on the ground in Part 77 (Objects Affecting Navigable Airspace) or in Advisory Circular 150/5190-3 (Model Airport Zoning Ordinance). This does not imply that such consideration is not given during aeronautical studies and hearings, or that this accident was typical in its environmental impact of the approximately 25,780 takeoff and landing accidents that occurred on, or in the immediate vicinity of U. S. airports during the earlier-mentioned 8-year period. The Board also recognizes that the responsibility for prudent restrictions on the use of land around airports, and construction thereon, rests with local jurisdictions. However, advisory guidance, and the judicious use of controls in the fund allocations under the Airport Development Aid Program, could be influential in convincing the jurisdictions involved that the compatibility considerations of airports and surrounding environment should not only include noise, pollution, and similar factors, but also a practical regard for the safety of people and property on the ground.

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Honorable John H. Shaffer

APPENDIX E

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With regard to existing hazardous situations around certain airports, the Board believes that there is a need to issue guidelines restricting the use of specific runways to specific aircraft or operations, based on such factors as the aircraft's accelerate-stop distance, runway length, engine-out capability, and the proximity of urban congestion to the runway involved; this would assist airport managers in securing or implementing the authority to offset the hazards inherent in the environmental encroachment that has been allowed to develop near some airports.

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In view of the foregoing, the National Transportation Safety Board recommends that the Federal Aviation Administration:

1. Limit the issuance of experimental certificates to those aircraft and operations that are truly experimental in nature and reclassify the other activities listed in FAR 21.191 in a manner that will permit more selective regulatory control without unduly inhibiting the promotion of aviation.
2. Establish pilot experience, transition, and proficiency standards applicable to the operation of all high-performance surplus military aircraft, reciprocating as well as turbine engine powered.
3. Establish additional airshow separation criteria applicable to persons and property in other than designated spectator areas to insure that the overall suitability of an airport for airshows is taken into account.
4. Include in the guidelines dealing with compatible land use planning around airports, consideration for the safety of persons and property on the ground, and use the controls available in the Airport Development Aid Program to insure compliance.
5. Establish guidelines that will assist airport managers in setting limitations on the utilization of runways where existing environmental encroachment and runway length combine to create a high-risk level for certain aircraft operations.

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Honorable John H. Shaffer

APPENDIX E

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These recommendations ~~will~~ be released to the public on the issue date ~~shown~~ above. No public dissemination of the contents should be made prior to ~~that~~ date.

Reed, Chairman, McAdams, Burgess, and Haley, Members, concurred in the above recommendations. Thayer, Member, was absent, not voting.

board

By: 
John H. Reed
Chairman

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DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

APPENDIX F

WASHINGTON, D.C. 20590

OFFICE OF
THE ADMINISTRATOR

26 JAN 1973

Honorable John H. Reed
Chairman, National Transportation
Safety Board
Department of Transportation
Washington, D. C. 20591

John H. Reed
Dear Mr. Chairman:

This in response to NISB Safety Recommendations A-72-219 thru 223.

1. A regulatory project is underway to separate exhibition, air racing and amateur-built aircraft from the experimental category and to specify appropriate operating restrictions for each. We expect to issue a Notice of Proposed Rule Making in the near future.
2. We are considering including all high performance military surplus aircraft in the recently established pilot competency requirements. We expect a policy to be established on this in the near future.
3. Action is underway to update air show guidelines and policy. We fully recognize that every airport environment is not suitable for air shows. This will be given special emphasis.
4. The Airport and Airway Development Act, which is the basic authority for the Airport Development Aid Program (ADAP), provides, among other things, that no airport development project shall be approved unless sponsor submits satisfactory assurances that appropriate action has been or will be taken, to the extent reasonable, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations, including the landing and takeoff of aircraft.

This provision of the Act is implemented by section 152.35 of the FAR which requires the sponsor of an ADAP project to state in its application the action it has taken to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations.

Additional guidance on compatible land use is provided for field personnel in Order 5100.18, paragraph 277. This paragraph suggests various means of achieving compatible land use "such as promoting and fostering the development of open air areas, recreational areas, and other uses and activities that do not generate assemblies of people. Federal assistance programs that will preserve open land

APPENDIX F



OFFICE OF
ADMINISTRATOR

uses around an airport should be used to the extent possible. These programs include the Department of Housing and Urban Development Open Space Land Program and recreation and conservation land grants of the Bureau of Outdoor Recreation, Department of the Interior." We list in this order as constituting incompatible land uses, such uses as residential development, and places of public assembly including schools, hospitals, churches, and similar institutions.

On the basis of the above requirements and guidance, we believe we are already in conformance with recommendation 4.

5. The FAA will look into the possibility of revising our publication 150/5190-3A, "Model Airport Hazard Zoning Ordinance," to include guidance of the type stated in recommendation 5. Also, we will consider this recommendation in the development of our new Advisory Circular on airport design considerations of obstruction, obstacles, and objects around the airport,

Sincerely,



J. H. Shaffer
Administrator



FAA
Airports

Grant Assurances Airport Sponsors

A. General.

1. These assurances shall be complied with in the performance of grant agreements for airport development, airport planning, and noise compatibility program grants for airport sponsors.
2. These assurances are required to be submitted as part of the project application by sponsors requesting funds under the provisions of Title 49, U.S.C., subtitle VII, as amended. As used herein, the term "public agency sponsor" means a public agency with control of a public-use airport; the term "private sponsor" means a private owner of a public-use airport; and the term "sponsor" includes both public agency sponsors and private sponsors.
3. Upon acceptance of this grant offer by the sponsor, these assurances are incorporated in and become part of this grant agreement.

B. Duration and Applicability.

1. **Airport development or Noise Compatibility Program Projects Undertaken by a Public Agency Sponsor.** The terms, conditions and assurances of this grant agreement shall remain in full force and effect throughout the useful life of the facilities developed or equipment acquired for an airport development or noise compatibility program project, or throughout the useful life of the project items installed within a facility under a noise compatibility program project, but in any event not to exceed twenty (20) years from the date of acceptance of a grant offer of Federal funds for the project. However, there shall be no limit on the duration of the assurances regarding Exclusive Rights and Airport Revenue so long as the airport is used as an airport. There shall be no limit on the duration of the terms, conditions, and assurances with respect to real property acquired with federal funds. Furthermore, the duration of the Civil Rights assurance shall be specified in the assurances.
2. **Airport Development or Noise Compatibility Projects Undertaken by a Private Sponsor.** The preceding paragraph 1 also applies to a private sponsor except that the useful life of project items installed within a facility or the useful life of the facilities developed or equipment acquired under an airport development or noise compatibility program project shall be no less than ten (10) years from the date of acceptance of Federal aid for the project.

- 3. Airport Planning Undertaken by a Sponsor.** Unless otherwise specified in this grant agreement, only Assurances 1, 2, 3, 5, 6, 13, 18, 30, 32, 33, and 34 in section C apply to planning projects. The terms, conditions, and assurances of this grant agreement shall remain in full force and effect during the life of the project.
- C. Sponsor Certification.** The sponsor hereby assures and certifies, with respect to this grant that:
- 1. General Federal Requirements.** It will comply with all applicable Federal laws, regulations, executive orders, policies, guidelines, and requirements as they relate to the application, acceptance and use of Federal funds for this project including but not limited to the following:
- Federal Legislation**
- a. Title 49, U.S.C., subtitle VII, as amended.
 - b. Davis-Bacon Act - 40 U.S.C. 276(a), et seq.¹
 - c. Federal Fair Labor Standards Act - 29 U.S.C. 201, et seq.
 - d. Hatch Act – 5 U.S.C. 1501, et seq.²
 - e. Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 Title 42 U.S.C. 4601, et seq.^{1 2}
 - f. National Historic Preservation Act of 1966 - Section 106 - 16 U.S.C. 470(f).¹
 - g. Archeological and Historic Preservation Act of 1974 - 16 U.S.C. 469 through 469c.¹
 - h. Native Americans Grave Repatriation Act - 25 U.S.C. Section 3001, et seq.
 - i. Clean Air Act, P.L. 90-148, as amended.
 - j. Coastal Zone Management Act, P.L. 93-205, as amended.
 - k. Flood Disaster Protection Act of 1973 - Section 102(a) - 42 U.S.C. 4012a.¹
 - l. Title 49, U.S.C., Section 303, (formerly known as Section 4(f))
 - m. Rehabilitation Act of 1973 - 29 U.S.C. 794.
 - n. Civil Rights Act of 1964 - Title VI - 42 U.S.C. 2000d through d-4.
 - o. Age Discrimination Act of 1975 - 42 U.S.C. 6101, et seq.
 - p. American Indian Religious Freedom Act, P.L. 95-341, as amended.
 - q. Architectural Barriers Act of 1968 -42 U.S.C. 4151, et seq.¹
 - r. Power plant and Industrial Fuel Use Act of 1978 - Section 403- 2 U.S.C. 8373.¹
 - s. Contract Work Hours and Safety Standards Act - 40 U.S.C. 327, et seq.¹
 - t. Copeland Anti kickback Act - 18 U.S.C. 874.1
 - u. National Environmental Policy Act of 1969 - 42 U.S.C. 4321, et seq.¹
 - v. Wild and Scenic Rivers Act, P.L. 90-542, as amended.
 - w. Single Audit Act of 1984 - 31 U.S.C. 7501, et seq.²
 - x. Drug-Free Workplace Act of 1988 - 41 U.S.C. 702 through 706.

Executive Orders

Executive Order 11246 - Equal Employment Opportunity¹
 Executive Order 11990 - Protection of Wetlands
 Executive Order 11998 – Flood Plain Management
 Executive Order 12372 - Intergovernmental Review of Federal Programs
 Executive Order 12699 - Seismic Safety of Federal and Federally Assisted New
 Building Construction¹
 Executive Order 12898 - Environmental Justice

Federal Regulations

- a. 14 CFR Part 13 - Investigative and Enforcement Procedures.
- b. 14 CFR Part 16 - Rules of Practice For Federally Assisted Airport Enforcement Proceedings.
- c. 14 CFR Part 150 - Airport noise compatibility planning.
- d. 29 CFR Part 1 - Procedures for predetermination of wage rates.¹
- e. 29 CFR Part 3 - Contractors and subcontractors on public building or public work financed in whole or part by loans or grants from the United States.¹
- f. 29 CFR Part 5 - Labor standards provisions applicable to contracts covering federally financed and assisted construction (also labor standards provisions applicable to non-construction contracts subject to the Contract Work Hours and Safety Standards Act).¹
- g. 41 CFR Part 60 - Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor (Federal and federally assisted contracting requirements).¹
- h. 49 CFR Part 18 - Uniform administrative requirements for grants and cooperative agreements to state and local governments.³
- i. 49 CFR Part 20 - New restrictions on lobbying.
- j. 49 CFR Part 21 - Nondiscrimination in federally-assisted programs of the Department of Transportation - effectuation of Title VI of the Civil Rights Act of 1964.
- k. 49 CFR Part 23 - Participation by Disadvantage Business Enterprise in Airport Concessions.
- l. 49 CFR Part 24 - Uniform relocation assistance and real property acquisition for Federal and federally assisted programs.^{1,2}
- m. 49 CFR Part 26 – Participation By Disadvantaged Business Enterprises in Department of Transportation Programs.
- n. 49 CFR Part 27 - Nondiscrimination on the basis of handicap in programs and activities receiving or benefiting from Federal financial assistance.¹
- o. 49 CFR Part 29 – Government wide debarment and suspension (nonprocurement) and government wide requirements for drug-free workplace (grants).
- p. 49 CFR Part 30 - Denial of public works contracts to suppliers of goods and services of countries that deny procurement market access to U.S. contractors.

- q. 49 CFR Part 41 - Seismic safety of Federal and federally assisted or regulated new building construction.¹

Office of Management and Budget Circulars

- a. A-87 - Cost Principles Applicable to Grants and Contracts with State and Local Governments.
- b. A-133 - Audits of States, Local Governments, and Non-Profit Organizations
- ¹ These laws do not apply to airport planning sponsors.
- ² These laws do not apply to private sponsors.
- ³ 49 CFR Part 18 and OMB Circular A-87 contain requirements for State and Local Governments receiving Federal assistance. Any requirement levied upon State and Local Governments by this regulation and circular shall also be applicable to private sponsors receiving Federal assistance under Title 49, United States Code.

Specific assurances required to be included in grant agreements by any of the above laws, regulations or circulars are incorporated by reference in this grant agreement.

2. Responsibility and Authority of the Sponsor.

- a. **Public Agency Sponsor:** It has legal authority to apply for this grant, and to finance and carry out the proposed project; that a resolution, motion or similar action has been duly adopted or passed as an official act of the applicant's governing body authorizing the filing of the application, including all understandings and assurances contained therein, and directing and authorizing the person identified as the official representative of the applicant to act in connection with the application and to provide such additional information as may be required.
- b. **Private Sponsor:** It has legal authority to apply for this grant and to finance and carry out the proposed project and comply with all terms, conditions, and assurances of this grant agreement. It shall designate an official representative and shall in writing direct and authorize that person to file this application, including all understandings and assurances contained therein; to act in connection with this application; and to provide such additional information as may be required.

3. Sponsor Fund Availability. It has sufficient funds available for that portion of the project costs which are not to be paid by the United States. It has sufficient funds available to assure operation and maintenance of items funded under this grant agreement which it will own or control.

4. Good Title.

- a. It, a public agency or the Federal government, holds good title, satisfactory to the Secretary, to the landing area of the airport or site thereof, or will give assurance satisfactory to the Secretary that good title will be acquired.

- b. For noise compatibility program projects to be carried out on the property of the sponsor, it holds good title satisfactory to the Secretary to that portion of the property upon which Federal funds will be expended or will give assurance to the Secretary that good title will be obtained.

5. Preserving Rights and Powers.

- a. It will not take or permit any action which would operate to deprive it of any of the rights and powers necessary to perform any or all of the terms, conditions, and assurances in this grant agreement without the written approval of the Secretary, and will act promptly to acquire, extinguish or modify any outstanding rights or claims of right of others which would interfere with such performance by the sponsor. This shall be done in a manner acceptable to the Secretary.
- b. It will not sell, lease, encumber, or otherwise transfer or dispose of any part of its title or other interests in the property shown on Exhibit A to this application or, for a noise compatibility program project, that portion of the property upon which Federal funds have been expended, for the duration of the terms, conditions, and assurances in this grant agreement without approval by the Secretary. If the transferee is found by the Secretary to be eligible under Title 49, United States Code, to assume the obligations of this grant agreement and to have the power, authority, and financial resources to carry out all such obligations, the sponsor shall insert in the contract or document transferring or disposing of the sponsor's interest, and make binding upon the transferee all of the terms, conditions, and assurances contained in this grant agreement.
- c. For all noise compatibility program projects which are to be carried out by another unit of local government or are on property owned by a unit of local government other than the sponsor, it will enter into an agreement with that government. Except as otherwise specified by the Secretary, that agreement shall obligate that government to the same terms, conditions, and assurances that would be applicable to it if it applied directly to the FAA for a grant to undertake the noise compatibility program project. That agreement and changes thereto must be satisfactory to the Secretary. It will take steps to enforce this agreement against the local government if there is substantial non-compliance with the terms of the agreement.
- d. For noise compatibility program projects to be carried out on privately owned property, it will enter into an agreement with the owner of that property which includes provisions specified by the Secretary. It will take steps to enforce this agreement against the property owner whenever there is substantial non-compliance with the terms of the agreement.
- e. If the sponsor is a private sponsor, it will take steps satisfactory to the Secretary to ensure that the airport will continue to function as a public-use airport in accordance with these assurances for the duration of these assurances.
- f. If an arrangement is made for management and operation of the airport by any agency or person other than the sponsor or an employee of the sponsor, the sponsor will reserve sufficient rights and authority to insure

- that the airport will be operated and maintained in accordance Title 49, United States Code, the regulations and the terms, conditions and assurances in this grant agreement and shall insure that such arrangement also requires compliance therewith.
- g. Sponsors of commercial service airports will not permit or enter into any arrangement that results in permission for the owner or tenant of a property used as a residence, or zoned for residential use, to taxi an aircraft between that property and any location on airport. Sponsors of general aviation airports entering into any arrangement that results in permission for the owner of residential real property adjacent to or near the airport must comply with the requirements of Sec. 136 of Public Law 112-95 and the sponsor assurances.
6. **Consistency with Local Plans.** The project is reasonably consistent with plans (existing at the time of submission of this application) of public agencies that are authorized by the State in which the project is located to plan for the development of the area surrounding the airport.
7. **Consideration of Local Interest.** It has given fair consideration to the interest of communities in or near where the project may be located.
8. **Consultation with Users.** In making a decision to undertake any airport development project under Title 49, United States Code, it has undertaken reasonable consultations with affected parties using the airport at which project is proposed.
9. **Public Hearings.** In projects involving the location of an airport, an airport runway, or a major runway extension, it has afforded the opportunity for public hearings for the purpose of considering the economic, social, and environmental effects of the airport or runway location and its consistency with goals and objectives of such planning as has been carried out by the community and it shall, when requested by the Secretary, submit a copy of the transcript of such hearings to the Secretary. Further, for such projects, it has on its management board either voting representation from the communities where the project is located or has advised the communities that they have the right to petition the Secretary concerning a proposed project.
10. **Air and Water Quality Standards.** In projects involving airport location, a major runway extension, or runway location it will provide for the Governor of the state in which the project is located to certify in writing to the Secretary that the project will be located, designed, constructed, and operated so as to comply with applicable air and water quality standards. In any case where such standards have not been approved and where applicable air and water quality standards have been promulgated by the Administrator of the Environmental Protection Agency, certification shall be obtained from such Administrator. Notice of certification or refusal to certify shall be provided within sixty days after the project application has been received by the Secretary.
11. **Pavement Preventive Maintenance.** With respect to a project approved after January 1, 1995, for the replacement or reconstruction of pavement at the airport,

it assures or certifies that it has implemented an effective airport pavement maintenance-management program and it assures that it will use such program for the useful life of any pavement constructed, reconstructed or repaired with Federal financial assistance at the airport. It will provide such reports on pavement condition and pavement management programs as the Secretary determines may be useful.

12. **Terminal Development Prerequisites.** For projects which include terminal development at a public use airport, as defined in Title 49, it has, on the date of submittal of the project grant application, all the safety equipment required for certification of such airport under section 44706 of Title 49, United States Code, and all the security equipment required by rule or regulation, and has provided for access to the passenger enplaning and deplaning area of such airport to passengers enplaning and deplaning from aircraft other than air carrier aircraft.
13. **Accounting System, Audit, and Record Keeping Requirements.**
 - a. It shall keep all project accounts and records which fully disclose the amount and disposition by the recipient of the proceeds of this grant, the total cost of the project in connection with which this grant is given or used, and the amount or nature of that portion of the cost of the project supplied by other sources, and such other financial records pertinent to the project. The accounts and records shall be kept in accordance with an accounting system that will facilitate an effective audit in accordance with the Single Audit Act of 1984.
 - b. It shall make available to the Secretary and the Comptroller General of the United States, or any of their duly authorized representatives, for the purpose of audit and examination, any books, documents, papers, and records of the recipient that are pertinent to this grant. The Secretary may require that an appropriate audit be conducted by a recipient. In any case in which an independent audit is made of the accounts of a sponsor relating to the disposition of the proceeds of a grant or relating to the project in connection with which this grant was given or used, it shall file a certified copy of such audit with the Comptroller General of the United States not later than six (6) months following the close of the fiscal year for which the audit was made.
14. **Minimum Wage Rates.** It shall include, in all contracts in excess of \$2,000 for work on any projects funded under this grant agreement which involve labor, provisions establishing minimum rates of wages, to be predetermined by the Secretary of Labor, in accordance with the Davis-Bacon Act, as amended (40 U.S.C. 276a-276a-5), which contractors shall pay to skilled and unskilled labor, and such minimum rates shall be stated in the invitation for bids and shall be included in proposals or bids for the work.
15. **Veteran's Preference.** It shall include in all contracts for work on any project funded under this grant agreement which involve labor, such provisions as are necessary to insure that, in the employment of labor (except in executive, administrative, and supervisory positions), preference shall be given to Vietnam

era veterans, Persian Gulf veterans, Afghanistan-Iraq war veterans, disabled veterans, and small business concerns owned and controlled by disabled veterans as defined in Section 47112 of Title 49, United States Code. However, this preference shall apply only where the individuals are available and qualified to perform the work to which the employment relates.

16. **Conformity to Plans and Specifications.** It will execute the project subject to plans, specifications, and schedules approved by the Secretary. Such plans, specifications, and schedules shall be submitted to the Secretary prior to commencement of site preparation, construction, or other performance under this grant agreement, and, upon approval of the Secretary, shall be incorporated into this grant agreement. Any modification to the approved plans, specifications, and schedules shall also be subject to approval of the Secretary, and incorporated into this grant agreement.
17. **Construction Inspection and Approval.** It will provide and maintain competent technical supervision at the construction site throughout the project to assure that the work conforms to the plans, specifications, and schedules approved by the Secretary for the project. It shall subject the construction work on any project contained in an approved project application to inspection and approval by the Secretary and such work shall be in accordance with regulations and procedures prescribed by the Secretary. Such regulations and procedures shall require such cost and progress reporting by the sponsor or sponsors of such project as the Secretary shall deem necessary.
18. **Planning Projects.** In carrying out planning projects:
 - a. It will execute the project in accordance with the approved program narrative contained in the project application or with the modifications similarly approved.
 - b. It will furnish the Secretary with such periodic reports as required pertaining to the planning project and planning work activities.
 - c. It will include in all published material prepared in connection with the planning project a notice that the material was prepared under a grant provided by the United States.
 - d. It will make such material available for examination by the public, and agrees that no material prepared with funds under this project shall be subject to copyright in the United States or any other country.
 - e. It will give the Secretary unrestricted authority to publish, disclose, distribute, and otherwise use any of the material prepared in connection with this grant.
 - f. It will grant the Secretary the right to disapprove the sponsor's employment of specific consultants and their subcontractors to do all or any part of this project as well as the right to disapprove the proposed scope and cost of professional services.
 - g. It will grant the Secretary the right to disapprove the use of the sponsor's employees to do all or any part of the project.
 - h. It understands and agrees that the Secretary's approval of this project grant or the Secretary's approval of any planning material developed as part of

this grant does not constitute or imply any assurance or commitment on the part of the Secretary to approve any pending or future application for a Federal airport grant.

19. Operation and Maintenance.

- a. The airport and all facilities which are necessary to serve the aeronautical users of the airport, other than facilities owned or controlled by the United States, shall be operated at all times in a safe and serviceable condition and in accordance with the minimum standards as may be required or prescribed by applicable Federal, state and local agencies for maintenance and operation. It will not cause or permit any activity or action thereon which would interfere with its use for airport purposes. It will suitably operate and maintain the airport and all facilities thereon or connected therewith, with due regard to climatic and flood conditions. Any proposal to temporarily close the airport for non-aeronautical purposes must first be approved by the Secretary. In furtherance of this assurance, the sponsor will have in effect arrangements for-
- 1) Operating the airport's aeronautical facilities whenever required;
 - 2) Promptly marking and lighting hazards resulting from airport conditions, including temporary conditions; and
 - 3) Promptly notifying airmen of any condition affecting aeronautical use of the airport. Nothing contained herein shall be construed to require that the airport be operated for aeronautical use during temporary periods when snow, flood or other climatic conditions interfere with such operation and maintenance. Further, nothing herein shall be construed as requiring the maintenance, repair, restoration, or replacement of any structure or facility which is substantially damaged or destroyed due to an act of God or other condition or circumstance beyond the control of the sponsor.
- b. It will suitably operate and maintain noise compatibility program items that it owns or controls upon which Federal funds have been expended.

20. Hazard Removal and Mitigation. It will take appropriate action to assure that such terminal airspace as is required to protect instrument and visual operations to the airport (including established minimum flight altitudes) will be adequately cleared and protected by removing, lowering, relocating, marking, or lighting or otherwise mitigating existing airport hazards and by preventing the establishment or creation of future airport hazards.

21. Compatible Land Use. It will take appropriate action, to the extent reasonable, including the adoption of zoning laws, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations, including landing and takeoff of aircraft. In addition, if the project is for noise compatibility program implementation, it will not cause or permit any change in land use, within its jurisdiction, that will reduce its compatibility, with respect to the airport, of the noise compatibility program measures upon which Federal funds have been expended.

22. Economic Nondiscrimination.

- a. It will make the airport available as an airport for public use on reasonable terms and without unjust discrimination to all types, kinds and classes of aeronautical activities, including commercial aeronautical activities offering services to the public at the airport.
- b. In any agreement, contract, lease, or other arrangement under which a right or privilege at the airport is granted to any person, firm, or corporation to conduct or to engage in any aeronautical activity for furnishing services to the public at the airport, the sponsor will insert and enforce provisions requiring the contractor to-
 - 1) furnish said services on a reasonable, and not unjustly discriminatory, basis to all users thereof, and
 - 2) charge reasonable, and not unjustly discriminatory, prices for each unit or service, provided that the contractor may be allowed to make reasonable and nondiscriminatory discounts, rebates, or other similar types of price reductions to volume purchasers.
- c. Each fixed-based operator at the airport shall be subject to the same rates, fees, rentals, and other charges as are uniformly applicable to all other fixed-based operators making the same or similar uses of such airport and utilizing the same or similar facilities.
- d. Each air carrier using such airport shall have the right to service itself or to use any fixed-based operator that is authorized or permitted by the airport to serve any air carrier at such airport.
- e. Each air carrier using such airport (whether as a tenant, non tenant, or subtenant of another air carrier tenant) shall be subject to such nondiscriminatory and substantially comparable rules, regulations, conditions, rates, fees, rentals, and other charges with respect to facilities directly and substantially related to providing air transportation as are applicable to all such air carriers which make similar use of such airport and utilize similar facilities, subject to reasonable classifications such as tenants or non tenants and signatory carriers and non signatory carriers. Classification or status as tenant or signatory shall not be unreasonably withheld by any airport provided an air carrier assumes obligations substantially similar to those already imposed on air carriers in such classification or status.
- f. It will not exercise or grant any right or privilege which operates to prevent any person, firm, or corporation operating aircraft on the airport from performing any services on its own aircraft with its own employees [including, but not limited to maintenance, repair, and fueling] that it may choose to perform.
- g. In the event the sponsor itself exercises any of the rights and privileges referred to in this assurance, the services involved will be provided on the same conditions as would apply to the furnishing of such services by commercial aeronautical service providers authorized by the sponsor under these provisions.

- h. The sponsor may establish such reasonable, and not unjustly discriminatory, conditions to be met by all users of the airport as may be necessary for the safe and efficient operation of the airport.
 - i. The sponsor may prohibit or limit any given type, kind or class of aeronautical use of the airport if such action is necessary for the safe operation of the airport or necessary to serve the civil aviation needs of the public.
- 23. Exclusive Rights.** It will permit no exclusive right for the use of the airport by any person providing, or intending to provide, aeronautical services to the public. For purposes of this paragraph, the providing of the services at an airport by a single fixed-based operator shall not be construed as an exclusive right if both of the following apply:
- a. It would be unreasonably costly, burdensome, or impractical for more than one fixed-based operator to provide such services, and
 - b. If allowing more than one fixed-based operator to provide such services would require the reduction of space leased pursuant to an existing agreement between such single fixed-based operator and such airport. It further agrees that it will not, either directly or indirectly, grant or permit any person, firm, or corporation, the exclusive right at the airport to conduct any aeronautical activities, including, but not limited to charter flights, pilot training, aircraft rental and sightseeing, aerial photography, crop dusting, aerial advertising and surveying, air carrier operations, aircraft sales and services, sale of aviation petroleum products whether or not conducted in conjunction with other aeronautical activity, repair and maintenance of aircraft, sale of aircraft parts, and any other activities which because of their direct relationship to the operation of aircraft can be regarded as an aeronautical activity, and that it will terminate any exclusive right to conduct an aeronautical activity now existing at such an airport before the grant of any assistance under Title 49, United States Code.
- 24. Fee and Rental Structure.** It will maintain a fee and rental structure for the facilities and services at the airport which will make the airport as self-sustaining as possible under the circumstances existing at the particular airport, taking into account such factors as the volume of traffic and economy of collection. No part of the Federal share of an airport development, airport planning or noise compatibility project for which a grant is made under Title 49, United States Code, the Airport and Airway Improvement Act of 1982, the Federal Airport Act or the Airport and Airway Development Act of 1970 shall be included in the rate basis in establishing fees, rates, and charges for users of that airport.
- 25. Airport Revenues.**
- a. All revenues generated by the airport and any local taxes on aviation fuel established after December 30, 1987, will be expended by it for the capital or operating costs of the airport; the local airport system; or other local facilities which are owned or operated by the owner or operator of the

airport and which are directly and substantially related to the actual air transportation of passengers or property; or for noise mitigation purposes on or off the airport. The following exceptions apply to this paragraph:

- 1) If covenants or assurances in debt obligations issued before September 3, 1982, by the owner or operator of the airport, or provisions enacted before September 3, 1982, in governing statutes controlling the owner or operator's financing, provide for the use of the revenues from any of the airport owner or operator's facilities, including the airport, to support not only the airport but also the airport owner or operator's general debt obligations or other facilities, then this limitation on the use of all revenues generated by the airport (and, in the case of a public airport, local taxes on aviation fuel) shall not apply.
 - 2) If the Secretary approves the sale of a privately owned airport to a public sponsor and provides funding for any portion of the public sponsor's acquisition of land, this limitation on the use of all revenues generated by the sale shall not apply to certain proceeds from the sale. This is conditioned on repayment to the Secretary by the private owner of an amount equal to the remaining unamortized portion (amortized over a 20-year period) of any airport improvement grant made to the private owner for any purpose other than land acquisition on or after October 1, 1996, plus an amount equal to the federal share of the current fair market value of any land acquired with an airport improvement grant made to that airport on or after October 1, 1996.
 - 3) Certain revenue derived from or generated by mineral extraction, production, lease, or other means at a general aviation airport (as defined at Section 47102 of title 49 United States Code), if the FAA determines the airport sponsor meets the requirements set forth in Sec. 813 of Public Law 112-95.
- b. As part of the annual audit required under the Single Audit Act of 1984, the sponsor will direct that the audit will review, and the resulting audit report will provide an opinion concerning, the use of airport revenue and taxes in paragraph (a), and indicating whether funds paid or transferred to the owner or operator are paid or transferred in a manner consistent with Title 49, United States Code and any other applicable provision of law, including any regulation promulgated by the Secretary or Administrator.
 - c. Any civil penalties or other sanctions will be imposed for violation of this assurance in accordance with the provisions of Section 47107 of Title 49, United States Code.

26. Reports and Inspections. It will:

- a. submit to the Secretary such annual or special financial and operations reports as the Secretary may reasonably request and make such reports

- available to the public; make available to the public at reasonable times and places a report of the airport budget in a format prescribed by the Secretary;
- b. for airport development projects, make the airport and all airport records and documents affecting the airport, including deeds, leases, operation and use agreements, regulations and other instruments, available for inspection by any duly authorized agent of the Secretary upon reasonable request;
 - c. for noise compatibility program projects, make records and documents relating to the project and continued compliance with the terms, conditions, and assurances of this grant agreement including deeds, leases, agreements, regulations, and other instruments, available for inspection by any duly authorized agent of the Secretary upon reasonable request; and
 - d. in a format and time prescribed by the Secretary, provide to the Secretary and make available to the public following each of its fiscal years, an annual report listing in detail:
 - 1) all amounts paid by the airport to any other unit of government and the purposes for which each such payment was made; and
 - 2) all services and property provided by the airport to other units of government and the amount of compensation received for provision of each such service and property.
- 27. Use by Government Aircraft.** It will make available all of the facilities of the airport developed with Federal financial assistance and all those usable for landing and takeoff of aircraft to the United States for use by Government aircraft in common with other aircraft at all times without charge, except, if the use by Government aircraft is substantial, charge may be made for a reasonable share, proportional to such use, for the cost of operating and maintaining the facilities used. Unless otherwise determined by the Secretary, or otherwise agreed to by the sponsor and the using agency, substantial use of an airport by Government aircraft will be considered to exist when operations of such aircraft are in excess of those which, in the opinion of the Secretary, would unduly interfere with use of the landing areas by other authorized aircraft, or during any calendar month that –
- a. Five (5) or more Government aircraft are regularly based at the airport or on land adjacent thereto; or
 - b. The total number of movements (counting each landing as a movement) of Government aircraft is 300 or more, or the gross accumulative weight of Government aircraft using the airport (the total movement of Government aircraft multiplied by gross weights of such aircraft) is in excess of five million pounds.
- 28. Land for Federal Facilities.** It will furnish without cost to the Federal Government for use in connection with any air traffic control or air navigation activities, or weather-reporting and communication activities related to air traffic control, any areas of land or water, or estate therein, or rights in buildings of the sponsor as the Secretary considers necessary or desirable for construction, operation, and maintenance at Federal expense of space or facilities for such

purposes. Such areas or any portion thereof will be made available as provided herein within four months after receipt of a written request from the Secretary.

29. Airport Layout Plan.

- a. It will keep up to date at all times an airport layout plan of the airport showing (1) boundaries of the airport and all proposed additions thereto, together with the boundaries of all offsite areas owned or controlled by the sponsor for airport purposes and proposed additions thereto; (2) the location and nature of all existing and proposed airport facilities and structures (such as runways, taxiways, aprons, terminal buildings, hangars and roads), including all proposed extensions and reductions of existing airport facilities; (3) the location of all existing and proposed nonaviation areas and of all existing improvements thereon; and (4) all proposed and existing access points used to taxi aircraft across the airport's property boundary. Such airport layout plans and each amendment, revision, or modification thereof, shall be subject to the approval of the Secretary which approval shall be evidenced by the signature of a duly authorized representative of the Secretary on the face of the airport layout plan. The sponsor will not make or permit any changes or alterations in the airport or any of its facilities which are not in conformity with the airport layout plan as approved by the Secretary and which might, in the opinion of the Secretary, adversely affect the safety, utility or efficiency of the airport.
- b. If a change or alteration in the airport or the facilities is made which the Secretary determines adversely affects the safety, utility, or efficiency of any federally owned, leased, or funded property on or off the airport and which is not in conformity with the airport layout plan as approved by the Secretary, the owner or operator will, if requested, by the Secretary (1) eliminate such adverse effect in a manner approved by the Secretary; or (2) bear all costs of relocating such property (or replacement thereof) to a site acceptable to the Secretary and all costs of restoring such property (or replacement thereof) to the level of safety, utility, efficiency, and cost of operation existing before the unapproved change in the airport or its facilities except in the case of a relocation or replacement of an existing airport facility due to a change in the Secretary's design standards beyond the control of the airport sponsor.

- 30. Civil Rights.** It will comply with such rules as are promulgated to assure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or handicap be excluded from participating in any activity conducted with or benefiting from funds received from this grant. This assurance obligates the sponsor for the period during which Federal financial assistance is extended to the program, except where Federal financial assistance is to provide, or is in the form of personal property or real property or interest therein or structures or improvements thereon in which case the assurance obligates the sponsor or any transferee for the longer of the following periods: (a) the period during which the property is used for a purpose for which Federal financial assistance is extended, or for another purpose involving the provision of similar services or benefits, or

(b) the period during which the sponsor retains ownership or possession of the property.

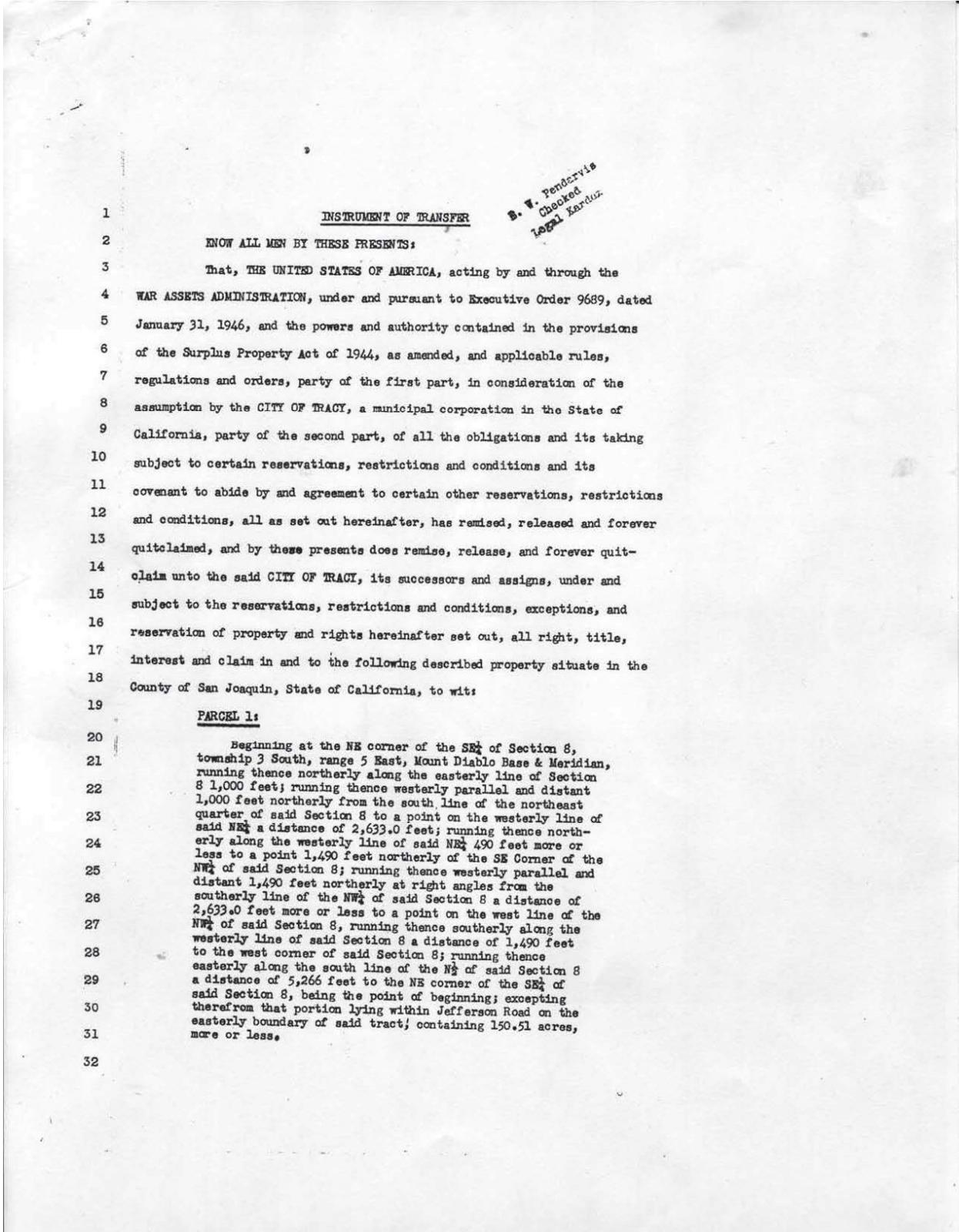
31. Disposal of Land.

- a. For land purchased under a grant for airport noise compatibility purposes, including land serving as a noise buffer, it will dispose of the land, when the land is no longer needed for such purposes, at fair market value, at the earliest practicable time. That portion of the proceeds of such disposition which is proportionate to the United States' share of acquisition of such land will be, at the discretion of the Secretary, (1) reinvested in another project at the airport, or (2) transferred to another eligible airport as prescribed by the Secretary. The Secretary shall give preference to the following, in descending order, (1) reinvestment in an approved noise compatibility project, (2) reinvestment in an approved project that is eligible for grant funding under Section 47117(e) of title 49 United States Code, (3) reinvestment in an approved airport development project that is eligible for grant funding under Sections 47114, 47115, or 47117 of title 49 United States Code, (4) transferred to an eligible sponsor of another public airport to be reinvested in an approved noise compatibility project at that airport, and (5) paid to the Secretary for deposit in the Airport and Airway Trust Fund. If land acquired under a grant for noise compatibility purposes is leased at fair market value and consistent with noise buffering purposes, the lease will not be considered a disposal of the land. Revenues derived from such a lease may be used for an approved airport development project that would otherwise be eligible for grant funding or any permitted use of airport revenue.
- b. For land purchased under a grant for airport development purposes (other than noise compatibility), it will, when the land is no longer needed for airport purposes, dispose of such land at fair market value or make available to the Secretary an amount equal to the United States' proportionate share of the fair market value of the land. That portion of the proceeds of such disposition which is proportionate to the United States' share of the cost of acquisition of such land will, (1) upon application to the Secretary, be reinvested or transferred to another eligible airport as prescribed by the Secretary. The Secretary shall give preference to the following, in descending order: (1) reinvestment in an approved noise compatibility project, (2) reinvestment in an approved project that is eligible for grant funding under Section 47117(e) of title 49 United States Code, (3) reinvestment in an approved airport development project that is eligible for grant funding under Sections 47114, 47115, or 47117 of title 49 United States Code, (4) transferred to an eligible sponsor of another public airport to be reinvested in an approved noise compatibility project at that airport, and (5) paid to the Secretary for deposit in the Airport and Airway Trust Fund.
- c. Land shall be considered to be needed for airport purposes under this assurance if (1) it may be needed for aeronautical purposes (including runway protection zones) or serve as noise buffer land, and (2) the revenue

- from interim uses of such land contributes to the financial self-sufficiency of the airport. Further, land purchased with a grant received by an airport operator or owner before December 31, 1987, will be considered to be needed for airport purposes if the Secretary or Federal agency making such grant before December 31, 1987, was notified by the operator or owner of the uses of such land, did not object to such use, and the land continues to be used for that purpose, such use having commenced no later than December 15, 1989.
- d. Disposition of such land under (a) (b) or (c) will be subject to the retention or reservation of any interest or right therein necessary to ensure that such land will only be used for purposes which are compatible with noise levels associated with operation of the airport.
- 32. Engineering and Design Services.** It will award each contract, or sub-contract for program management, construction management, planning studies, feasibility studies, architectural services, preliminary engineering, design, engineering, surveying, mapping or related services with respect to the project in the same manner as a contract for architectural and engineering services is negotiated under Title IX of the Federal Property and Administrative Services Act of 1949 or an equivalent qualifications-based requirement **prescribed** for or by the sponsor of the airport.
- 33. Foreign Market Restrictions.** It will not allow funds provided under this grant to be used to fund any project which uses any product or service of a foreign country during the period in which such foreign country is listed by the United States Trade Representative as denying fair and equitable market opportunities for products and suppliers of the United States in procurement and construction.
- 34. Policies, Standards, and Specifications.** It will carry out the project in accordance with policies, standards, and specifications approved by the Secretary including but not limited to the advisory circulars listed in the Current FAA Advisory Circulars for AIP projects, dated _____ (the latest approved version as of this grant offer) and included in this grant, and in accordance with applicable state policies, standards, and specifications approved by the Secretary.
- 35. Relocation and Real Property Acquisition.** (1) It will be guided in acquiring real property, to the greatest extent practicable under State law, by the land acquisition policies in Subpart B of 49 CFR Part 24 and will pay or reimburse property owners for necessary expenses as specified in Subpart B. (2) It will provide a relocation assistance program offering the services described in Subpart C and fair and reasonable relocation payments and assistance to displaced persons as required in Subpart D and E of 49 CFR Part 24. (3) It will make available within a reasonable period of time prior to displacement, comparable replacement dwellings to displaced persons in accordance with Subpart E of 49 CFR Part 24.
- 36. Access By Intercity Buses.** The airport owner or operator will permit, to the maximum extent practicable, intercity buses or other modes of transportation to

have access to the airport; however, it has no obligation to fund special facilities for intercity buses or for other modes of transportation.

37. **Disadvantaged Business Enterprises.** The recipient shall not discriminate on the basis of race, color, national origin or sex in the award and performance of any DOT-assisted contract or in the administration of its DBE program or the requirements of 49 CFR Part 26. The Recipient shall take all necessary and reasonable steps under 49 CFR Part 26 to ensure non discrimination in the award and administration of DOT-assisted contracts. The recipient's DBE program, as required by 49 CFR Part 26, and as approved by DOT, is incorporated by reference in this agreement. Implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the recipient of its failure to carry out its approved program, the Department may impose sanctions as provided for under Part 26 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Act of 1986 (31 U.S.C. 3801).
38. **Hangar Construction.** If the airport owner or operator and a person who owns an aircraft agree that a hangar is to be constructed at the airport for the aircraft at the aircraft owner's expense, the airport owner or operator will grant to the aircraft owner for the hangar a long term lease that is subject to such terms and conditions on the hangar as the airport owner or operator may impose.
39. **Competitive Access.**
- a. If the airport owner or operator of a medium or large hub airport (as defined in section 47102 of title 49, U.S.C.) has been unable to accommodate one or more requests by an air carrier for access to gates or other facilities at that airport in order to allow the air carrier to provide service to the airport or to expand service at the airport, the airport owner or operator shall transmit a report to the Secretary that-
 - 1) Describes the requests;
 - 2) Provides an explanation as to why the requests could not be accommodated; and
 - 3) Provides a time frame within which, if any, the airport will be able to accommodate the requests.
 - b. Such report shall be due on either February 1 or August 1 of each year if the airport has been unable to accommodate the request(s) in the six month period prior to the applicable due date.



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INSTRUMENT OF TRANSFER

B. W. Pendervis
Checked
Legal KARDUX

KNOW ALL MEN BY THESE PRESENTS:

That, THE UNITED STATES OF AMERICA, acting by and through the WAR ASSETS ADMINISTRATION, under and pursuant to Executive Order 9689, dated January 31, 1946, and the powers and authority contained in the provisions of the Surplus Property Act of 1944, as amended, and applicable rules, regulations and orders, party of the first part, in consideration of the assumption by the CITY OF TRACY, a municipal corporation in the State of California, party of the second part, of all the obligations and its taking subject to certain reservations, restrictions and conditions and its covenant to abide by and agreement to certain other reservations, restrictions and conditions, all as set out hereinafter, has remise, released and forever quitclaimed, and by these presents does remise, release, and forever quitclaim unto the said CITY OF TRACY, its successors and assigns, under and subject to the reservations, restrictions and conditions, exceptions, and reservation of property and rights hereinafter set out, all right, title, interest and claim in and to the following described property situate in the County of San Joaquin, State of California, to wit:

PARCEL 1:

Beginning at the NE corner of the SE $\frac{1}{4}$ of Section 8, township 3 South, range 5 East, Mount Diablo Base & Meridian, running thence northerly along the easterly line of Section 8 1,000 feet; running thence westerly parallel and distant 1,000 feet northerly from the south line of the northeast quarter of said Section 8 to a point on the westerly line of said NE $\frac{1}{4}$ a distance of 2,633.0 feet; running thence northerly along the westerly line of said NE $\frac{1}{4}$ 490 feet more or less to a point 1,490 feet northerly of the SE Corner of the NW $\frac{1}{4}$ of said Section 8; running thence westerly parallel and distant 1,490 feet northerly at right angles from the southerly line of the NW $\frac{1}{4}$ of said Section 8 a distance of 2,633.0 feet more or less to a point on the west line of the NW $\frac{1}{4}$ of said Section 8, running thence southerly along the westerly line of said Section 8 a distance of 1,490 feet to the west corner of said Section 8; running thence easterly along the south line of the N $\frac{1}{2}$ of said Section 8 a distance of 5,266 feet to the NE corner of the SE $\frac{1}{4}$ of said Section 8, being the point of beginning; excepting therefrom that portion lying within Jefferson Road on the easterly boundary of said tract; containing 150.51 acres, more or less.

1 TOGETHER WITH runways, taxiways, parking aprons and field lighting
2 system, one 20x30' wood frame building and steel control tower.

3 The above described premises are subject to existing easements for
4 roads, highways, public utilities, railways and pipe lines, and irrigation
5 ditches of the Banta-Carbona Irrigation District.

6 EXCEPTING, HOWEVER, from this conveyance all right, title and
7 interest in and to all property in the nature of equipment, furnishings,
8 and other personal property located on the land above described and on the
9 land leased from the City of Tracy as hereinafter set out, which can be
10 removed from the land without material injury to the land or structures
11 located thereon, other than property of such nature located on such premises
12 which is required for the efficient operation for airport purposes of the
13 structures and improvements specifically listed hereinabove as being trans-
14 ferred hereby; and further excepting from this conveyance all structures on
15 such premises other than structures specifically described or enumerated
16 above as being conveyed hereunder, and reserving to the party of the first
17 part the right of removal from the premises of its property and structures
18 excepted hereby within a reasonable period of time after the date hereof,
19 which shall not be construed to mean any period less than one (1) year after
20 date of this instrument.

21 And further excepting from this conveyance and reserving to the
22 United States of America a perpetual easement for the construction, use,
23 maintenance, replacement and repair of a right of way for the Delta-Mendota
24 Canal (Central Valley Project), over 25.52 acres of land, more or less, a
25 portion of the above described land, which is more particularly delineated
26 on map dated January 3, 1946, numbered P 258 A, a copy of which is attached
27 hereto and made a part hereof.

28 Further, the party of the first part, for the considerations
29 hereinabove expressed, does hereby surrender, subject to the terms and
30 conditions of this instrument, to the party of the second part the former's
31 leasehold interest in and to the premises set forth and described in a Lease
32 No. W-668-ang-2143 from the City of Tracy to the United States of America,

1 dated March 10, 1942, as modified by Supplemental Agreement No. 1 thereto,
2 dated June 24, 1946, including 156.5 acres, more or less, of land situated
3 in the County of San Joaquin, State of California.

4 The party of the second part does hereby release the party of the
5 first part from any and all claims which exist or may arise under the
6 provisions of the aforesaid lease, as so modified, except claims which may
7 be submitted under Section 17 of the Federal Airport Act.

8 Said property transferred hereby was duly declared surplus and
9 was assigned to the War Assets Administrator for disposal, acting pursuant
10 to the provisions of the Surplus Property Act of 1944, as amended, Executive
11 Order 9689, and applicable rules, regulations and orders.

12 That by the acceptance of this instrument or any rights hereunder,
13 the said party of the second part, for itself, its successors and assigns,
14 agrees that the aforesaid surrender of leasehold interest and transfer of
15 other property shall be subject to the following restrictions, set forth
16 in subparagraphs (1) and (2) of this paragraph, which shall run with the land,
17 imposed pursuant to the authority of Article 4, Section 3, Clause 2 of the
18 Constitution of the United States of America, the Surplus Property Act of
19 1944, as amended, Executive Order 9689, and applicable rules, regulations
20 and orders:

21 * (1) That the aforesaid leased premises and all property described
22 in Parcel One above which together shall hereinafter be called the "airport",
23 shall be used for public airport purposes, and only for such purposes, on
24 reasonable terms and without unjust discrimination and without grant or
25 exercise of any exclusive right for use of the airport within the meaning of
26 Section 303 of the Civil Aeronautics Act of 1938. As used herein, "public
27 airport purposes" shall be deemed to exclude use of the structures conveyed
28 hereby, or any portion thereof, for manufacturing or industrial purposes.
29 However, until, in the opinion of the Civil Aeronautics Administration or its
30 successor Government agency, it is needed for public airport purposes, any
31 particular structure transferred hereby may be utilized for non-manufacturing
32 or non-industrial purposes in such manner as the party of the second part

1 deems advisable, provided that such use does not interfere with operation
2 of the remainder of the airport as a public airport.
3 (2) That the entire landing area, as defined in WAA Regulation 16,
4 dated June 26, 1946, and all structures, improvements, facilities and equip-
5 ment of the airport shall be maintained at all times in good and serviceable
6 condition to assure its efficient operation; provided, however, that such
7 maintenance shall be required as to structures, improvements, facilities and
8 equipment only during the remainder of their estimated life as determined by
9 the Civil Aeronautics Administration or its successor Government agency. In
10 the event materials are required to rehabilitate or repair certain of the
11 aforementioned structures, improvements, facilities or equipment, they may
12 be procured by demolition of other structures, improvements, facilities or
13 equipment transferred hereby and located on the above described premises,
14 which have outlived their use as airport property in the opinion of the Civil
15 Aeronautics Administration or its successor Government agency.

16 That by the acceptance of this instrument, or any rights hereunder,
17 the party of the second part, for itself, its successors and assigns, also
18 assumes the obligations of, covenants to abide by and agrees to, and this
19 surrender and transfer is made subject to, the following reservations and
20 restrictions set forth in subparagraphs (1) to (6) of this paragraph, which
21 shall run with the land, imposed pursuant to the authority of Article 4,
22 Section 3, Clause 2 of the Constitution of the United States of America, the
23 Surplus Property Act of 1944, as amended, Executive Order 9689 and applicable
24 rules, regulations and orders:

25 ~~*~~ (1) That insofar as is within its powers and reasonably possible,
26 the party of the second part, and all subsequent transferees, shall prevent
27 any use of land either within or outside the boundaries of the airport,
28 including the construction, erection, alteration, or growth of any structure
29 or other object thereon, which use would be a hazard to the landing, taking-off,
30 or maneuvering of aircraft at the airport, or otherwise limit its usefulness
31 as an airport.
32

1 (2) That the building areas and non-aviation facilities, as such
2 terms are defined in WAA Regulation 16, dated June 26, 1946, of or on the
3 airport shall be used, altered, modified, or improved only in a manner which
4 does not interfere with the efficient operation of the landing area and of
5 the airport facilities, as defined in WAA Regulation 16, dated June 26, 1946.

6 (3) That itinerant aircraft owned by the United States of America
7 (hereinafter sometimes referred to as the "Government"), or operated by any
8 of its employees or agents on Government business, shall at all times have
9 the right to use the airport in common with others; provided, however, that
10 such use may be limited as may be determined at any time by the Civil
11 Aeronautics Administration or the successor Government agency to be necessary
12 to prevent interference with use by other authorized aircraft, so long as
13 such limitation does not restrict the Government's use to less than
14 twenty-five (25) per centum of capacity of the landing area of the airport.
15 Government use of the airport by virtue of the provisions of this sub-
16 paragraph shall be without charge of any nature other than payment for
17 damage caused by such itinerant aircraft.

18 * (4) That during the existence of any emergency declared by the
19 President of the United States of America, or the Congress thereof, the
20 Government shall have the right without charge, except as indicated below,
21 to the full, unrestricted possession, control and use of the landing area,
22 building areas, and airport facilities, as such terms are defined in WAA
23 Regulation 16, dated June 26, 1946, or any part thereof, including any
24 additions or improvements thereto made subsequent to the declaration of any
25 part of the airport as surplus; provided, however, that the Government shall
26 be responsible during the period of such use for the entire cost of maintain-
27 ing all such areas, facilities, and improvements, or the portions used, and
28 shall pay a fair rental for the use of any installations or structures which
29 have been added thereto without Federal aid.

30 (5) That no exclusive right for the use of any landing area or air
31 navigation facilities, as such terms are defined in WAA Regulation 16, dated
32 June 26, 1946, included in or on the airport shall be granted or exercised.

1 (6) That the airport may be successively transferred only with
2 the approval of the Civil Aeronautics Administration or the successor
3 Government agency, and with the proviso that such subsequent transferee
4 assumes all the obligations imposed upon the party of the second part by the
5 provisions of this instrument.

6 By acceptance of this instrument, or any right hereunder, the party
7 of the second part further agrees with the party of the first part as
8 follows:

9 * (1) That upon a breach of any of the aforesaid reservations or
10 restrictions by the party of the second part, or any subsequent transferee,
11 whether caused by the legal inability of said party of the second part or
12 subsequent transferee to perform any of the obligations herein set out, or
13 otherwise, the title, right of possession and all other rights transferred
14 to the party of the second part, or any portion thereof, shall at the
15 option of the party of the first part revert to the party of the first part
16 upon demand made in writing by the War Assets Administration or its successor
17 Government agency at least sixty (60) days prior to the date fixed for the
18 reversion of such title, right of possession and other rights transferred, or
19 any portion thereof; provided, that, as to installations or structures which
20 have been added to the premises without Federal aid, the Government shall
21 have the option to acquire title to or use of the same at the then fair
22 market value of the rights therein to be acquired by the Government.

23 (2) That if the construction as covenants of any of the foregoing
24 reservations and restrictions recited herein as covenants, or the application
25 of the same as covenants in any particular instance is held invalid, the
26 particular reservations or restrictions in question shall be construed
27 instead merely as conditions upon the breach of which the Government may
28 exercise its option to cause the title, right of possession and all other
29 rights transferred to the party of the second part, or any portion thereof,
30 to revert to it, and the application of such reservations or restrictions as
31 covenants in any other instance and the construction of the remainder of
32 such reservations and restrictions as covenants shall not be affected thereby.

1 TO HAVE AND TO HOLD the property transferred hereby, except the
 2 property and rights excepted and reserved above, and under and subject to
 3 the aforesaid reservations, restrictions, and conditions, unto the said party
 4 of the second part, its successors and assigns forever.

5 IN WITNESS WHEREOF, the United States of America, acting by and
 6 through the War Assets Administrator, has caused these presents to be executed
 7 in its name and on its behalf by J. WAYNE HARROP, Acting Deputy Regional
 8 Director, War Assets Administration, and the CITY OF TRACY, to evidence its
 9 complete acknowledgment of, accord with, acceptance of and agreement to be
 10 bound by the terms, conditions, reservations and restrictions set forth in
 11 this instrument, has caused these presents to be executed in its name and on
 12 its behalf by J. W. STOCKING, its Mayor, and attested by CHAS. E. DE FREITAS,
 13 its City Clerk, and its seal to be hereunto affixed, all as of the
 14 27 day of May, 1947.

16 UNITED STATES OF AMERICA
 17 Acting by and Through
 18 War Assets Administration

19 WITNESSES:

By J. Wayne Harrop
 J. WAYNE HARROP
 Acting Deputy Regional Director
 Office of Real Property Disposal
 War Assets Administration
 San Francisco, California

20 Albert S. Lindsey
 21 A. R. Boyer

23 CITY OF TRACY
 24 A municipal corporation

24 WITNESSES:

By J. W. Stocking
 Its Mayor

25 Arvida Patton
 26 Sony Waldenwith

29 ATTEST:

30 Chas. E. Freitas
 31 City Clerk

1 STATE OF CALIFORNIA :
 2 COUNTY OF SAN JOAQUIN : ss.
 3 On this 19th day of June, 1947, before me Senge
 4 Wallsworth, a Notary Public in and for same
 5 County, personally appeared J. W. STOCKING,
 6 known to me to be the Mayor of the CITY OF TRACY, and known to me to be the
 7 person whose name is subscribed to the within instrument on behalf of the
 8 CITY OF TRACY, and acknowledged to me that he executed the same as the free
 9 and voluntary act and deed of the CITY OF TRACY and as his own free and
 10 voluntary act and deed.

11 Senge Wallsworth
 12 Notary Public

13
 14 (SEAL)

15
 16
 17 My commission expires:
 18 April 26, 1950

North Las Vegas Airport SJR-3 Flight Safety Review and Recommendations



**Submitted to the
Nevada Legislative Commission
by the
SJR-3 Stakeholder Group
November 1, 2009**



Cecil Johnson
Assistant Director of General Aviation
North Las Vegas Airport
2730 Airport Dr., Suite 101
North Las Vegas, NV 89032
(702) 261-5746
Fax: (702) 647-7508

October 27, 2009

Lorne Malkiewich, Secretary
Nevada Legislative Commission
401 South Carson Street
Carson City, NV 89701-4747

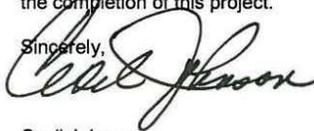
Dear Mr. Malkiewich:

Senate Joint Resolution No. 3 (SJR-3) of the 2009 Nevada State Legislature, urged the Federal Aviation Administration (FAA) and the Clark County Department of Aviation (CCDOA) to convene a stakeholder group comprised of representatives including the FAA, CCDOA, the City of North Las Vegas, the Clark County Aviation Association, the Aircraft Owners and Pilots Association, neighborhood residents and airport tenants to analyze concerns and make recommendations to improve flight safety standards at North Las Vegas Airport. Although the FAA did not participate as a stakeholder member, the Manager of the FAA Las Vegas Flight Standards District Office did provide extensive technical advice during the meetings. The attached report presents the unanimous findings of the stakeholder group.

The highlights of the report are featured in the executive summary. This information is supported by more detailed data reported in the main body of the report. A brief historical and operational overview of North Las Vegas Airport is provided, the responsibilities of the FAA and CCDOA are outlined, recent airport safety improvements are enumerated, and a review of aircraft accidents within approximately the past 10 years on and near the airport is included using data from the National Transportation Safety Board. The report concludes with 13 recommendations the stakeholder group believes can serve to improve the safe operation of general aviation aircraft using North Las Vegas Airport.

I would like to personally extend my appreciation to everyone that participated for their time and effort in the completion of this project.

Sincerely,



Cecil Johnson
Assistant Director, General Aviation, Clark County Department of Aviation
Chairman, SJR-3 Stakeholder Group

cc: Senator Steven Horsford
Assemblywoman Marilyn Kirkpatrick
Randall H. Walker, Director, Clark County Department of Aviation
Rosemary A. Vassiliadis, Deputy Director, Clark County Department of Aviation

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EXECUTIVE SUMMARY

North Las Vegas Airport is owned and operated by the Clark County Department of Aviation. Opened in 1941, it is a general aviation “reliever” airport designed to attract light aircraft traffic from nearby McCarran International Airport. It is the second busiest airport in Nevada and one of the 100 busiest airports in the United States with over 600 based aircraft. According to a recent study the airport annually contributes over \$136 million to the local economy.

Two aircraft accidents in the vicinity of North Las Vegas Airport in 2008 prompted the Nevada State Legislature to examine safety at the airport. A resolution of the Nevada State Legislature urged the formation of a stakeholder group to review current operational practices and make recommendations to improve flight safety at North Las Vegas Airport. This report presents the findings of this group, including the following:

- By law the Federal Aviation Administration (FAA) is solely responsible for monitoring and regulating aviation safety.
- The Clark County Department of Aviation (DOA) is responsible for maintaining infrastructure on airport grounds, including airfield lighting, signage, taxiways and runways.
- The Federal Aviation Administration and the Clark County Department of Aviation have partnered to improve safety at the airport in recent years through aviation education and facility improvements.
- Between January 1999 and September 2009, North Las Vegas Airport experienced 2.23 million takeoffs and landings. Forty-three accidents were recorded by the National Transportation Safety Board (NTSB) during this period within a 10-mile radius of the airport. The annual number of accidents has declined over this period. Those accidents range from a high of 7 in 2000 and 2003 to a low of 1 in 2007 and 2009 (Appendix C).
- Over this period, 75 percent of accidents were attributable to pilot error (Appendix D).
- Three of the 43 accidents involved experimental aircraft. Experimental aircraft account for 7 percent of the total number of based aircraft at North Las Vegas Airport and represent 7 percent of all accidents (Appendix G).
- Through examination of available data, it was determined that of a total of 43 accidents, 32 or 74 percent involved based aircraft, and 11 or 26 percent involved transient aircraft. Of a total of 32 based aircraft accidents, 8 or 25 percent involved flight instructional activities. Five of these 8 accidents, or 63 percent, involved the use of helicopters by flight schools (Appendix G).

- A review of accident data reveals different causes for accidents that occurred both on and off airport property. Loss of directional control was the most frequent cause of accidents on airport property. Fuel system mismanagement was the most frequent cause for accidents occurring off airport property (Appendix E).
- Additional research and analysis by the National Transportation Safety Board is warranted to better determine the causal effects of all aircraft accidents at North Las Vegas Airport.
- None of the accidents were attributable to airport infrastructure or other site conditions at North Las Vegas Airport.

This report presents specific recommendations to enhance flight safety standards at North Las Vegas Airport.

INTRODUCTION

Senate Joint Resolution No. 3 of the 2009 Nevada State Legislature (SJR-3) became effective on May 22, 2009 (Appendix A). On August 22, 2008 a Kilgore Velocity experimental aircraft experienced engine trouble and collided with a residence, resulting in the fatalities of the pilot and two occupants in the house. On August 28, 2008 a Navajo twin-engine aircraft manufactured by Piper Aircraft Corporation experienced an onboard fire and the aircraft impacted a house while attempting to return to the airport for an emergency landing. The pilot was fatally injured.

This resolution urged the Federal Aviation Administration to work closely with the Clark County Department of Aviation and the entire aviation community in Clark County to convene a stakeholder group with representation from each of the following for the purpose of improving safety:

- The Federal Aviation Administration
- The Clark County Department of Aviation
- The City of North Las Vegas
- The Aircraft Owners and Pilots Association
- Clark County Aviation Association
- Residents of neighborhoods surrounding the North Las Vegas Airport
- Tenants of the North Las Vegas Airport

This stakeholder group was directed to issue a preliminary analysis of concerns regarding the current flight safety practices at North Las Vegas Airport and to make recommendations to improve flight safety standards at the airport, particularly with respect to experimental aircraft.

On August 26, 2009, September 22, 2009 and October 13, 2009, meetings of the stakeholder committee were held with the following committee members:

- Anita Wood, North Las Vegas City Council
- Janice Ridondo, Resident of the City of Las Vegas¹
- Cecil Johnson, Clark County Department of Aviation
- Stacy Howard, Aircraft Owners and Pilots Association
- David Lerner, Clark County Aviation Association
- Kenny Scherado, North Las Vegas Airport Commercial Tenant
- Dave Edwards, North Las Vegas Airport Tenant²
- Dan Markoff, North Las Vegas Airport Tenant (Absent 10/13/09)

¹ Ms. Ridondo is a long term resident of a neighborhood near North Las Vegas Airport, and an employee of Clark County, Nevada

² Mr. Edwards is also Vice President of the Clark County Aviation Association and a member of the Experimental Aircraft Association

The following individuals participated in the SJR-3 meetings and provided extensive technical advice:

- Pete Yiakos, Manager, Federal Aviation Administration Las Vegas Flight Standards District Office (Absent 9/22/09)
- Ben Czyzewski, Airport Manager, Clark County Department of Aviation
- Doug McNeeley, Sr. Management Analyst, Clark County Department of Aviation

Discussion was held concerning the regulation of general aviation aircraft, previous steps taken by the Clark County Department of Aviation to improve safety at the airport, potential safety enhancements, and methods to improve communication with area residents. Based on this discussion and a review of the causal factors involved in aircraft accidents associated with the airport, it is the purpose of this report to analyze available data and provide recommendations to improve flight safety standards at North Las Vegas Airport.

AIRPORT BACKGROUND

The Clark County Department of Aviation owns and operates McCarran International Airport and four general aviation airports, including North Las Vegas Airport. The following information provides a brief historical and operational perspective:

- North Las Vegas Airport opened as the Sky Harbor Airport on December 7, 1941.
- Clark County purchased the airport in 1987. After it was purchased, Clark County Department of Aviation began a multi-million dollar renovation of the facility, including construction of a 15,600 square foot terminal building that opened in 1992.
- The primary mission of the airport today is to attract as many general aviation aircraft as possible from McCarran International Airport to reduce congestion at this busy commercial airport.
- In 2008 North Las Vegas had 165,197 takeoffs and landings, making it the second busiest airport in Nevada after McCarran International Airport.
- The North Las Vegas Airport has 286 enclosed hangars, 214 shade hangars and 171 outdoor parking spaces. Currently, there are 659 aircraft based at the airport, from two-seat training aircraft to business jets.

- The airport is 914 acres in size, making it larger than LaGuardia Airport in New York, Midway Airport in Chicago or Reagan National Airport in Washington, DC.
- In 2008 the Clark County Department of Aviation sold over 1.3 million gallons of fuel at North Las Vegas Airport.
- Over 1 million pounds of air freight, primarily small packages and documents were processed through the North Las Vegas Airport in 2008.
- The airport contributes 1,771 jobs and over \$136 million in annual economic benefits to the community, according to an economic impact study completed by the University of Nevada in 2005.
- There are 20 commercial businesses located at the airport, including flight schools, aircraft maintenance facilities, office and hangar rental companies, aircraft charter operators and a Grand Canyon sightseeing airline.
- The airport provides a host of community services. A senior Civil Air Patrol squadron based at the airport flies vital search and rescue missions. Air ambulance flights transport critically ill patients from the airport to receive care at specialized treatment centers throughout the region. Charitable organizations also fly needy patients for treatment throughout the Southwest United States. The Las Vegas Metropolitan Police fly patrols from the airport to help safeguard the community. Traffic reporters fly from the airport to broadcast reports that make daily commuting safer and easier.
- The airport is certified by the Federal Aviation Administration under 14 CFR Part 139 which provides increased inspection and maintenance activity.

DELINEATION OF RESPONSIBILITY

Federal law provides that the United States Government has exclusive sovereignty of airspace in the United States and requires the FAA Administrator to prescribe regulations regarding the flight of aircraft to prevent collisions and to protect persons and property on the ground. Accordingly, the functions of the FAA include such items as:

- Operation of the air traffic control system in the United States, including the North Las Vegas Air Traffic Control Tower
- The establishment of training requirements for pilots and aircraft technicians.
- The establishment of aircraft operating procedures.

- The issuance of pilot certificates and the enforcement of all Federal Aviation Regulations.
- The establishment of aircraft maintenance procedures, including the construction process for experimental aircraft.

It should also be noted that under Federal Aviation Regulations the FAA grants considerable responsibility and authority to the pilot in command. The following is stated in 14 CFR 91.3 (a):

The pilot in command of an aircraft is directly responsible for, and is the final authority as to, the operation of that aircraft.

The Clark County Department of Aviation owns and operates North Las Vegas Airport, along with three other general aviation airports, Henderson Executive, Jean Sport, Perkins-Field Overton and McCarran International. The Department of Aviation does not have jurisdiction over the regulation of aviation safety. They are primarily responsible for maintaining infrastructure on the ground including buildings, airfield lighting, signage, taxiways and runways. The specific responsibilities of Department of Aviation managers, supervisors, and employees fall into a number of broad categories, as follows:

- Daily inspection of pavement, safety areas, pavement markings, lighting, navigational aids, obstructions, fueling operations, construction areas, equipment related to emergency response, security measures for public protection, and potential wildlife hazards.
- Routine maintenance of all airport facilities, and 24-hour response to urgent maintenance requirements.
- Oversight of all airport construction projects.
- The promulgation and enforcement of rules and regulations regarding the use of airport facilities.
- Oversight of all airport security measures.
- Compliance with all local, state, and federal environmental regulations.
- Oversight of all airport fueling operations and the provision of various aviation services and products for based and transient aircraft and pilots.
- Drafting and issuing leases and other grants of occupancy for space at the airport for use by commercial and individual tenants.

- Drafting and issuing Requests for Proposals for companies wanting to provide commercial services at the airport.
- The preparation of and adherence to the annual airport operating budget.

AIRPORT SAFETY MEASURES

In recent years, the Clark County Department of Aviation has undertaken a significant number of capital projects and other measures to improve safety at the North Las Vegas Airport. The North Las Vegas Airport has received over \$80 million in grants from the FAA since 1987 for capital projects. The funding for federal grants used within the Clark County Airport System comes primarily from the users of the aviation system through a tax on aviation fuel purchased and airline tickets, not general tax revenue. Future capital projects at North Las Vegas Airport will be evaluated for their ability to improve safety and airport capacity. Although the airport is under a program of continuous improvement, there are no plans to expand the physical boundaries of the airport or change the type of air traffic that uses the facility.

- A new Runway 12R GPS instrument approach was commissioned in October 1996 at North Las Vegas Airport to enable pilots to maintain instrument flying proficiency.
- A new parallel Runway 12L – 30R was constructed in November 2001 at the airport to provide a more efficient flow of air traffic and segregate primary flight training activities.
- A new air traffic control tower with state-of-the art equipment was constructed and put into service in April 2000.
- Additional airport directional signage and pavement markings were installed throughout 2003 to help prevent runway incursions.
- An Enhanced Airport Lighting System was installed in December 2004 to help prevent runway incursions. This system included above ground lights placed at 29 taxiway intersections and in pavement lights at three intersections to increase situational awareness.
- Beginning in January 2005, bi-monthly meetings are conducted by the Department of Aviation to discuss safety procedures with based individual and commercial tenants.
- A Memorandum of Understanding was signed in August 2005 between the Department of Aviation and the Federal Aviation Administration to segregate helicopter training activity and reduce helicopter flights over neighborhoods surrounding the airport.

- In October 2005, North Las Vegas Airport was certified by the Federal Aviation Administration under 14 CFR Part 139, which provides increased inspections and maintenance activities at the airport facility.
- A new Runway 12L Instrument Landing System was commissioned in December 2005 to assist pilots in maintaining instrument proficiency.
- Runway End Identifier Lights were installed at the end of each runway at the airport in November 2006 to improve situational awareness for pilots approaching the airport at night.
- An educational brochure was created by the FAA in cooperation with the Department of Aviation and distributed to pilots throughout the region in October 2006 to help reduce runway incursions.
- General Aviation Airports Rules & Regulations were adopted by the Clark County Board of Commissioners in January 2007 to ensure a safe operating environment at the airport.
- In June 2007 interactive information was placed on the airport website outlining methods that based and transient pilots can use to guard against runway incursions.
- A Motor Vehicle Driving Safety Manual was issued in September 2007 by the Department of Aviation to provide information for the safe operation of vehicles on the airfield.
- The procurement and operational introduction of an airport ground support incident vehicle in July 2007. This vehicle is equipped with dry chemical and foam fire retardant.
- An airport emergency drill was conducted in September 2007 involving multiple agencies and utilizing National Incident Management System protocol.
- General Aviation Airports Operating Directives were adopted in December 2007 to further clarify safe operating procedures on the airfield.
- A capital project was completed in March 2008 to cover drainage channels on the airfield to eliminate potential obstructions.
- Information on aviation safety is continuously presented in a newsletter sent bi-monthly to each based tenant by the Department of Aviation.
- North Las Vegas became one of the first airports in the country to participate in an FAA Pilot Study and submit a Safety Management System

(SMS) study and manual to the FAA. This will be used to help establish SMS standards to be used by over 600 airports nationwide.

- A project to remove high-tension power lines immediately south of the airport along Carey Ave. and relocate them underground commenced in September 2009.

AIRCRAFT ACCIDENT ANALYSIS

The National Transportation Safety Board (NTSB) maintains the official database of aircraft accidents occurring within the United States. This database may be accessed by the general public at www.ntsb.gov, and it was used in compiling information for this report. Accident data for North Las Vegas Airport between January 1999 and August 2009 is summarized in Appendix B.

The committee reviewed accident data for North Las Vegas Airport. The following criteria were used as the basis for analysis:

- The geographic area of inquiry was narrowed to within a ten (10) nautical mile radius of the airport. The selected geographic area encompasses most of the “congested” area in the immediate vicinity of the airport, and it excludes accidents that were attributed to the airport but actually occurred in remote areas during the en route portion of flight.
- The analysis period was narrowed to the timeframe between January 1999 and September 2009. This is the time period when most of the airport safety improvements were incorporated. The FAA Las Vegas Flight Standards District Office (FSDO) also selected this timeframe as a representative sampling of aircraft accidents for analysis.

Based upon the stated criteria, a total of 43 accidents were selected for final analysis. The findings below are based upon that analysis:

- Between 1999 and 2009 there were 2.23 million takeoffs and landings at North Las Vegas Airport.
- The total annual number of aircraft accidents at North Las Vegas Airport has declined over the inquiry period, from a high of 7 accidents in 2000 and 2003 to a low of 1 accident in 2007 and 1 accident in 2009 year to date. However, while the number of on airport accidents has declined significantly in the past four years, the number of off airport accidents has remained relatively constant (Appendix C).
- Through examination of available data, it was determined that of a total of 43 accidents, 32 or 74 percent involved based aircraft, and 11 or 26 percent involved transient aircraft. Of a total of 32 based aircraft accidents, 8 or 25

percent involved flight instructional activities. A total of 28 accidents, 65 percent, occurred on airport property and 15 accidents, 35 percent, occurred off airport property. Five of these 8 accidents, or 63 percent, involved the use of helicopters by flight schools. NTSB accident data does not reveal in every case if the certified flight instructor or the student pilot was operating the controls at the time of an accident.

- Forty of the 43 total accidents, 93 percent, during the period analyzed involved manufactured aircraft (Appendix G).
- Three of the 43 accidents involved experimental aircraft. Experimental aircraft account for 7 percent of the total number of based aircraft at North Las Vegas Airport and represent 7 percent of all accidents (Appendix G).
- As a result of the above-referenced accidents, 14 fatalities resulted (Appendix F).
- The number of fatalities attributable to manufactured aircraft during this period was 11 and accounted for 73 percent of the total. One accident on December 25, 2003 resulted in 6 deaths (Appendix F).
- The number of fatalities attributed to experimental aircraft during this period was 3 and accounted for 27 percent of the total. Three of the 7 fatalities that occurred off airport, or 43 percent, involved experimental aircraft. These airport fatalities are attributed to the accident that occurred on August 22, 2008 (Appendix F)
- According to the NTSB Probable Cause Report, the experimental aircraft accident of August 22, 2008 resulted from a partial loss of engine power due to the owner/builder's inadequate installation of the supercharger system and belt-tensioning adjustment. This underscores the importance of the recent prohibition by the FAA FSDO of any Phase I flight activity at North Las Vegas Airport and the need to prohibit a waiver of the minimum number of required flight test hours under Order 8130.2F, *Airworthiness Certification of Aircraft and Related Products*.
- Of the 43 total accidents, 32 accidents, 75 percent, were attributable to pilot error. A total of 7 accidents, 16 percent, were due to mechanical issues including failure of components and maintenance errors. In addition, a total of 1 accident, 2 percent, was due to controller error, a total of 1 accident, 2 percent, was due to pilot incapacitation, and 2 accidents, 5 percent, were due to unknown causes (Appendix D).
- NTSB identified 28 accidents as occurring on airport property. The most prevalent factor involving aircraft was a loss of directional control (a total of 10 accidents, or 36 percent), primarily as a result of windy conditions. The

next most prevalent cause of aircraft accidents on airport property was the mechanical malfunction of landing gear (a total of 3, or 11 percent). There was one aircraft aerodynamic stall, or 4 percent. A total of 10 accidents, or 36 percent, were attributable to other factors including an unstable approach with excessive speed, pilot incapacitation, and controller error. The only factor involved in helicopter accidents on airport was inadequately performed autorotations that resulted in hard landings (a total of 4, or 14 percent) (Appendix E).

- The causal factors involved in the 15 accidents off airport property were very different than those on airport property. The most prevalent cause of these accidents was fuel system mismanagement (a total of 6 accidents, or 40 percent) involving either the incorrect positioning of switches or miscalculating the fuel consumption rate and exhaustion of the fuel supply. Additionally, 2 accidents, 13 percent, were caused by a loss of engine power for unknown reasons. There was one aircraft aerodynamic stall, or 7 percent. The remaining 4 aircraft accidents, or 26 percent, were attributable to unrelated factors including insufficient climb rate and striking an obstruction. Two accidents, or 13 percent, involved helicopters (Appendix E).
- Of the total number of accidents, 42 involved aircraft used for private business and recreational use (Part 91) and one involved an aircraft used for commercial purposes (Part 135 Charter).
- The number of aircraft accidents by type (manufactured/ experimental) could not be compared with the number of annual aircraft operations to determine an accident rate because the FAA does not retain this information.

RECOMMENDATIONS

Based on the analysis of aircraft accidents and other information presented in this report, the SJR-3 Stakeholder Group makes the following recommendations to improve flight safety at North Las Vegas Airport:

1. The Las Vegas FAA Flight Standards District Office FSDO issued a memorandum on December 9, 2008 to its inspectors to no longer permit any Phase I flight operations of experimental aircraft from North Las Vegas Airport. This bans experimental aircraft from using the airport until they have completed the first phase of flight time, either 25 or 40 hours depending on the aircraft's engine and propeller combination. The FAA FSDO should monitor and ensure adherence by local experimental aircraft builders to this published, prohibition. The FAA FSDO should not grant any waivers of the minimum number of flight test hours specified in Order 8130.2F, *Airworthiness Certification of Aircraft and Related Products*,

Section 9, Paragraph 152c(1). The FAA FSDO and the Clark County Department of Aviation should work collaboratively on any proposed changes in the prohibition of Phase I flight or the conditions under which waivers may be granted.

2. The FAA should continue to take immediate and appropriate enforcement action when it is determined that Federal Aviation Regulations have been violated. This FAA FSDO intervention should better promote pilot adherence to Federal Aviation Regulations.
3. The FAA FSDO should prepare a detailed annual report for distribution to the local aviation community regarding enforcement action initiated against any pilot or other certificate holder within their jurisdiction. This report will protect individual identity, but should include a brief description of each investigative case and enforcement action taken. The total number of investigative cases initiated compared with the total number for the previous year. This will provide comparative analysis to measure trends in enforcement activity.
4. The FAA should require local FAA Operations Inspectors, Designated Examiners, Certified Flight Instructors and the FAAS Team to emphasize the importance of proper fuel management techniques and the effect of crosswinds and density altitude on aircraft performance during all Bi-Annual Flight Reviews and Practical Flight Tests. Heightened awareness of these factors by pilots should increase safety.
5. The FAA FSDO should continue the periodic and unannounced monitoring of activities in the Air Operations Area of the airport to ensure that pilots, aircraft mechanics and flight instructors are following safe operating practices and adhering to Federal Aviation Regulations. Unannounced visits by the FAA FSDO inspectors should increase the overall effectiveness of the enforcement program.
6. Additional research and analysis by the National Transportation Safety Board is encouraged to provide as much information as possible regarding the causal factors involved in each general aviation aircraft accident. More detailed analysis will capture all available data and may suggest additional methods to reduce aircraft accidents.
7. The FAA FSDO should encourage awareness of and adherence to Federal Aviation Regulations and safe aircraft operating practices through educational initiatives at the local, regional, and national level, including information posted on the FAAS Team website, www.faasafety.com. The Aircraft Owners and Pilots Association should also be encouraged to communicate safety information to local pilots. Ongoing educational efforts

serve to increase situational awareness and prepare pilots to more effectively handle airborne emergencies.

8. The FAA Air Traffic Control Tower at North Las Vegas Airport should be encouraged to record announcements on the Automatic Terminal Information Service (ATIS) that pilots “check density altitude” when the air temperature is over 85 degrees Fahrenheit and state the actual reading. This information is used by pilots during flight planning to calculate aircraft takeoff and climb performance.
9. The FAA Air Traffic Control Tower at North Las Vegas Airport should adhere to guidance in the *Aeronautical Information Manual* regarding standard airport traffic patterns. To the extent possible they should minimize the requirement for pilots to fly extended downwind, base, or final legs. By remaining in close proximity to the airport pilots are in better position to return to the airport during emergency situations.
10. The Clark County Department of Aviation should be encouraged to purchase available vacant land adjacent to North Las Vegas Airport, particularly in or near any Runway Protection Zone (RPZ), to ensure that remaining open area is preserved in the immediate vicinity of the airport. This will provide an expanded area for aircraft to land during emergencies.
11. The cities of North Las Vegas and Las Vegas should be encouraged to enact legislation to prohibit the construction of new buildings, communication towers or other obstructions above a safe height in the immediate vicinity of North Las Vegas Airport. Existing structures that may be determined to pose a hazard to air navigation near the airport should be evaluated using a cost and benefit analysis for alteration or removal. This will help eliminate the possibility of aircraft striking tall structures within the immediate vicinity of the airport.
12. The cities of North Las Vegas and Las Vegas should be encouraged to enact legislation to prohibit the further construction of residential housing or other non-compatible land uses within the immediate vicinity of North Las Vegas Airport. The City of North Las Vegas is addressing this issue in the current revision of its Zoning Ordinance (Title 17). As part of this process, North Las Vegas has also submitted its draft Air Terminal Environs Ordinances to the Clark County Department of Aviation for review and comment. This reduces the possibility of non-compatible development near the airport and aids in future community planning.
13. The Clark County Department of Aviation, the Clark County Aviation Association and other stakeholders should be encouraged to work together to establish open communication with local residents regarding North Las Vegas Airport. The methods used to establish communication include, but

are not limited to, airport open house events, programming dedicated to the airport on Clark County Cable Television Channel 4, public meetings and the distribution of informational brochures. This will serve to increase awareness on the part of the general public regarding continued airport safety enhancements, economic contributions and community benefits.

SUMMARY

North Las Vegas Airport is an active general aviation airport ranked as the second busiest airport in Nevada. Between January 1999 and September 2009 there were 2.23 million takeoffs and landings and a total of 43 accidents in the immediate vicinity of the airport.

The annual number of accidents at the airport has declined in recent years. The Federal Aviation Administration and the Clark County Department of Aviation have each instituted a variety of proactive safety measures. The Department of Aviation has work closely with airport stakeholders to make constructive changes that enhance safety at all of their facilities, particularly North Las Vegas Airport. An important objective of the Department of Aviation is to work with residents to ensure that airport operations are compatible with the surrounding community.

While the risk of aircraft accidents can never be completely mitigated, the clear objective of aviation stakeholders as well as area residents is to reduce the number of aircraft accidents at North Las Vegas Airport. The most significant finding of this report is the very specific and unique factors involved in aircraft accidents that have occurred on and off the airport. None of the accidents reviewed for this report were attributable to infrastructure or other site conditions at North Las Vegas Airport, including the inspection, maintenance or repair of runways and taxiways, lighting, signage, pavement markings or navigational aids under the direct care, custody and control of the Clark County Department of Aviation.

The SJR-3 Stakeholder Group believes any initiatives to improve flight safety standards should involve a collaborative effort on the part of the Federal Aviation Administration, the Clark County Department of Aviation and other stakeholders. Recommendations from this SJR-3 Stakeholder Group have been presented in this report. These recommendations are specific and should result in an even safer operating environment at North Las Vegas Airport.

References:

- 14 Code of Federal Regulations, Part 91.3 (q)*
- 14 Code of Federal Regulations, Part 139*
- 49 United States Code § 40103*
- Aviation Supplies and Academics, Federal Aviation Regulations, Aeronautical Information Manual (2009). New Castle, WA*
- Draft Safety Management System Plan, North Las Vegas Airport, Ricondo and Associates (April 2009).*
- FAA Memorandum to Aviation Safety Inspections, AWP-FSDO-10 (December 2008).*
- General Aviation Airports Rules & Regulations, Clark County Department of Aviation (January 2007).*
- General Aviation Airports Rules & Regulations, Clark County Department of Aviation (December 2007).*
- Motor Vehicle Driving Safety Manual, Clark County Department of Aviation (September 2007).*
- National Transportation Safety Board, Probable Cause Report LAX08LA274 (July 2009).*
- Nevada General Aviation Airport Economic Impact Study, Bureau of Business and Economic Research, University of Nevada, Reno (2005).*
- Senate Joint Resolution No.3-Nevada State Legislature (May 2009).*
- Southern Nevada Regional Airport System Plan, Ricondo and Associates (August 2001).*
- www.faa.gov, *The Operations Network (OPSNET)*
- www.faasafety.gov, *FAAS Team*
- www.mccarran.com, *About the Airport, Finance & Statistics*
- www.NTSB.gov, *Aviation Accident Database and Synopsis*

Appendix A – SJR-3

Senate Joint Resolution No. 3—Senator Horsford

Joint Sponsor: Assemblywoman Kirkpatrick

FILE NUMBER.....

SENATE JOINT RESOLUTION—Urging the Federal Aviation Administration and the Clark County Department of Aviation to convene a stakeholders' group to develop and make recommendations to improve flight safety standards at the North Las Vegas Airport, particularly with respect to experimental homebuilt aircraft.

Legislative Counsel's Digest:

Federal law provides that the United States Government has exclusive sovereignty of airspace of the United States and requires the Administrator of the Federal Aviation Administration to prescribe regulations on the flight of aircraft to prevent collisions between aircraft and to protect persons and property on the ground. (49 U.S.C. § 40103) This resolution urges the Federal Aviation Administration to work closely with the Clark County Department of Aviation to convene a stakeholders' group to develop and make recommendations to improve flight safety standards at the North Las Vegas Airport, particularly with respect to experimental homebuilt aircraft.

WHEREAS, The expansion of urban areas in Clark County increasingly places homes and neighborhoods directly in the flight paths of aircraft flying to and from the North Las Vegas Airport; and

WHEREAS, Flights of experimental homebuilt aircraft to and from the North Las Vegas Airport are increasingly common; and

WHEREAS, Experimental homebuilt aircraft have higher accident rates than other types of aircraft and accounted for more than 12 percent of airplane accidents nationwide in 2007; and

WHEREAS, Experimental homebuilt aircraft have been involved in nine accidents at airports within the Clark County airport system since 2003, three of which were at the North Las Vegas Airport; and

WHEREAS, A crash involving an experimental homebuilt aircraft flying from the North Las Vegas Airport resulted in the deaths of two persons on the ground in 2008; and

WHEREAS, The Federal Aviation Administration sets standards for the number of hours experimental homebuilt aircraft must be tested before such aircraft can be operated at airports such as the North Las Vegas Airport; and

WHEREAS, Some of the experimental homebuilt aircraft operated at the North Las Vegas Airport may have been operated without having met those national standards; and



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WHEREAS, The safety of persons who live near the North Las Vegas Airport is of the highest concern to the people of this State; and

WHEREAS, The Clark County Department of Aviation cannot regulate the flights of experimental homebuilt aircraft to and from the North Las Vegas Airport because federal law provides the United States Government with exclusive sovereignty of airspace in the United States; now, therefore, be it

RESOLVED BY THE SENATE AND ASSEMBLY OF THE STATE OF NEVADA, JOINTLY, That the Nevada Legislature expresses serious concerns regarding the current flight safety practices at the North Las Vegas Airport; and be it further

RESOLVED, That the Nevada Legislature urges the Federal Aviation Administration to work closely with the Clark County Department of Aviation and the entire aviation community in Clark County to convene not later than June 1, 2009, a stakeholders' group, which must include, without limitation:

1. A representative from the Federal Aviation Administration;
2. A representative of the Clark County Department of Aviation;
3. A representative of the Clark County Aviation Association;
4. A representative of the City of North Las Vegas;
5. A representative of the Aircraft Owners and Pilots Association;
6. Residents of neighborhoods surrounding the North Las Vegas Airport; and
7. Tenants of the North Las Vegas Airport; and be it further

RESOLVED, That the stakeholders' group shall, on or before August 1, 2009, issue its preliminary analysis of the concerns regarding the current flight safety practices at the North Las Vegas Airport; and be it further

RESOLVED, That the stakeholders' group shall, on or before November 1, 2009, develop and make recommendations to improve flight safety standards at the North Las Vegas Airport, particularly with respect to experimental homebuilt aircraft, for submission to the appropriate entities for consideration and to the Legislative Commission; and be it further

RESOLVED, That the Nevada Legislature urges the Nevada Congressional Delegation to use its best efforts to encourage the Federal Aviation Administration to participate in this endeavor; and be it further

RESOLVED, That the Secretary of the Senate prepare and transmit a copy of this resolution to the Administrator of the Federal



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Aviation Administration, the Board of County Commissioners of Clark County, the Director of the Clark County Department of Aviation, the North Las Vegas City Council and each member of the Nevada Congressional Delegation; and be it further

RESOLVED, That this resolution becomes effective upon passage.

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Appendix B

**AIRCRAFT ACCIDENT DATABASE
JANUARY 1999 TO SEPTEMBER 2009
NORTH LAS VEGAS AIRPORT**

**Data Source: National Transportation Safety Board
Accidents more than 10 nautical miles (NM) from the airport are excluded
and are identified as shaded**

Appendix B – Accident Summary Data

NORTH LAS VEGAS AIRPORT

Date	Location	N-Number	Make/Model	Mfr	Type of Operation	Fa tal	Error	Description
4/22/2009	Off Airport	N17YS	Schweizer 269C	M	Based Part 91 Instructional	0	Awaiting Probable Cause Report	The helicopter lost engine power while attempting to land on high terrain, resulting in a hard landing. A probable cause has not yet been issued.
4/14/2009	On Airport	N4816D	Cessna 182	M	Based Part 91	0	PE	The pilot lost directional control while attempting to land and veered off the pavement into the dirt causing a prop strike and wing damage.
8/28/2008	Off Airport	N212HB	Piper PA-31-350	M	Transient Part 91	1	Awaiting Probable Cause Report	The aircraft departed VGT, experienced an onboard fire and was returning for an emergency landing when it crashed into a home 1.2 miles W of the airport. NTSB has not yet issued a probable cause.
8/22/2008	Off Airport	N415MK	Kilgore Velocity 173RG	E	Based Part 91	3	ME	An experimental homebuilt aircraft departed VGT on a test flight and crashed into a house 1.1 miles SE of the airport.
6/28/2008	Off Airport	N4063W	Piper Lance	M	Transient Part 91	4	PE	The pilot departed VGT and struck rapidly rising terrain in a mountain valley near Mt. Charleston. Lack of situational awareness and density altitude were causal factors.
2/29/2008	Off Airport	N958CP	Schweizer 269C	M	Based Part 91 Instructional	0	PE	A helicopter departed VGT and crashed in high terrain due to the student pilot's failure to maintain control and the instructor's inadequate supervision. Lack of suitable terrain for an emergency landing was also a contributing factor.

M – Manufactured, E – Experimental, PE – Pilot Error, ME – Mechanical Error, CE – Controller Error
 Accidents more than 10 nautical miles (NIM) from the airport are excluded and are identified as shaded

11/8/2007	Off Airport	N881CP	Cessna T182	M	Transient Part 91	2	PE	An aircraft operated by the Civil Air Patrol departed VGT during night VFR conditions and subsequently crashed into high terrain 13 miles SW of Las Vegas.
4/7/2007	Off Airport	N1079M	Cessna 172	M	Based Part 91 Instructional	0	ME	A solo student pilot attempting to land on Runway 12L and landed on Decatur Blvd. adjacent to the airport after a loss of engine power for undetermined reasons.
11/26/2006	Off Airport	N414AY	Cessna 414	M	Based Part 91	0	PE	The aircraft's right engine experienced a loss of power and the aircraft collided with a fence during an emergency landing in a residential area. The probable cause was fuel starvation as the result of the pilot's improper fuel management.
11/24/2006	Off Airport	N977SA	Cessna T210	M	Transient Part 91	0	PE	The aircraft lost engine power and collided with a telephone line during the forced landing attempt 2 miles NE of VGT due fuel exhaustion and the pilot's fuel mismanagement.
8/8/2005	On Airport	N58431	Hughes 369D	M	Based Part 91 Instructional	0	PE	A student pilot was conducting an autorotation at VGT when the tail rotor and stinger contacted the ground due to his improper flight control use and the instructor's inadequate supervision.
7/21/2005	On Airport	N7UP	Aero Commander 680	M	Transient Part 91	0	PE	As the aircraft rotated and became airborne it settled and impacted the ground as the result of excessive flap selection and high density altitude.
7/20/2005	On Airport	N4961D	Cessna 172	M	Based Part 91 Instructional	0	PE	After touching down on Runway 12L, the aircraft veered left, struck a ditch and collided with an airport location sign due to the solo student pilot's failure to maintain directional control.

M – Manufactured, E – Experimental, PE – Pilot Error, ME – Mechanical Error, CE – Controller Error
 Accidents more than 10 nautical miles (NIM) from the airport are excluded and are identified as shaded

5/5/2005	On Airport	N337DR	Gulfstream 695	M	Based Part 91	1	Pilot Incapacitation	A passenger took control of the aircraft and made a hard landing at VGT after the pilot experienced a cardiac event in the air and died. ⁵
	Off Airport	N6663P	Cessna P210	M	Based Part 91	0	PE	A pilot returning to VGT made a forced landing in an open field 6 mile NE after a total loss of engine power. The probable cause was determined to be fuel exhaustion.
10/30/2004	Off Airport	N6675X	Cessna 210A	M	Based Part 91	0	ME	While descending to land at VGT, the pilot experienced a total lack of power and landed on a nearby residential street. The NTSB could not determine a cause for the reported power failure.
9/5/2004	On Airport	N994RW	Robinson R-22	M	Based Part 91 Instructional	0	PE	A helicopter hit the ground during a practice autorotation due to the flight instructor's misjudged flare and delayed recovery.
5/27/2004	On Airport	N5010X	Raytheon Premier Jet	M	Based Part 91	0	PE	The aircraft was landing on Runway 7 when it left the pavement at the departure end and crashed through the perimeter fence due to an unstabilized approach, excessive speed and the presence of a tailwind.
5/22/2004	Off Airport	N154ZP	American Blimp Corp. A-1-50	M	Transient Part 91	0	PE	A blimp collided with a one story office building while attempting to takeoff from VGT due to winds and the pilot's inability to obtain a sufficient rate of climb.
12/25/2003	On Airport	N364JR	Beech A36TC	M	Transient Part 91	6	Unknown	On initial climb from Runway 12R the pilot declared an unspecified emergency and then crashed. The NTSB could not determine a specific cause of this accident.

M – Manufactured, E – Experimental, PE – Pilot Error, ME – Mechanical Error, CE – Controller Error
 Accidents more than 10 nautical miles (NIM) from the airport are excluded and are identified as shaded

9/23/2003	On Airport	N8604N and N146PM	Piper Arrow and Piper Mirage	M	Transient and Based Part 91	0	CE	A landing Piper Arrow and a departing Piper Mirage collided at the intersection of Runways 12L and 7. The NTSB identified the failure of FAA personnel to maintain proper separation as the probable cause.
8/31/2003	On Airport	N103TK	Piper Malibu	M	Based Part 91	0	PE	The aircraft crashed short of Runway 12R due to the pilot's failure to maintain an adequate approach speed during approach for the aircraft's flight configuration.
7/27/2003	On Airport	N499R	Hogarty Lancair IV P	E	Transient Part 91	0	PE	The aircraft settled to the ground during takeoff and the main landing gear collapsed due to the pilot's premature lift-off before airspeed was attained resulting in a stall.
6/1/2003	Off Airport	N991RW	Robinson R-22 Helicopter	M	Based Part 91 Instructional	0	PE	The helicopter collided with a wire during a pinnacle approach due to the pilot's failure to maintain adequate visual lookout.
4/25/2003	On Airport	N43VB	Cessna 182	M	Based Part 91	0	PE	Aircraft landing on Runway 25 crashed during day VFR due to the pilot's inadequate compensation for gusty cross wind conditions and a failure to maintain directional control.
4/4/2003	Off Airport	N553CH	Cessna 172	M	Based Part 91 Instructional	2	PE	The aircraft descended near vertically to ground impact on a private pilot practical flight test due to the applicant pilot's failure to maintain adequate airspeed while maneuvering.
3/30/2003	Off Airport	N95DC	Beechcraft V35	M	Based Part 91	0	PE	The aircraft lost power on departure and crashed into nearby obstacles due to fuel starvation as a result of the pilot's mismanagement of his fuel supply.

M – Manufactured, E – Experimental, PE – Pilot Error, ME – Mechanical Error, CE – Controller Error
 Accidents more than 10 nautical miles (NIM) from the airport are excluded and are identified as shaded

10/12/2002	On Airport	N2209F	Cessna 310	M	Based Part 91	0	PE	Pilot became distracted when approaching Runway 30L during night VFR conditions and slid to a stop with retracted landing gear. ⁷
9/25/2002	Off Airport	N601GM	Bell 206 Helicopter	M	Based Part 91	0	PE	The helicopter experienced an emergency hard landing 2 miles S of VGT due to inadequate pre-flight planning that resulted in fuel exhaustion.
8/31/2002	Off Airport	N3184	Breezy RLU-1A	E	Based Part 91	0	PE	While maneuvering around a large rock formation the aircraft entered a box canyon and crashed due to both pilot's failure to maintain an adequate terrain clearance altitude.
6/23/2002	On Airport	N160RA	Cessna 172	M	Based Part 91	0	PE	The aircraft was taxiing when it departed the taxiway and came to rest in a concrete drainage ditch due to the pilot's decision to fly after dark with an inoperative landing light and his unfamiliarity with the airport.
6/14/2002	Off Airport	N7041B	Robinson R-22 Helicopter	M	Based Part 91 Instructional	0	PE	The helicopter collided with the ground while attempting a downwind takeoff from a remote practice area due to the student pilot's control inputs and the instructor's lack of adequate supervision.
6/6/2002	On Airport	N7196W	Robinson R-22 Helicopter	M	Based Part 91 Instructional	0	PE	While attempting an autorotation the helicopter landed hard and was damaged due to the student pilot's improper control inputs and the instructor's lack of adequate supervision.

M – Manufactured, E – Experimental, PE – Pilot Error, ME – Mechanical Error, CE – Controller Error
 Accidents more than 10 nautical miles (NIM) from the airport are excluded and are identified as shaded

3/29/2002	Off Airport	N7040C	Robinson R-22 Helicopter	M	Based Part 91 Instructional	0	PE	The helicopter collided with the ground and rolled over while practicing autorotations in a remote area due to the failure of the instructor to properly judge the landing flare.
11/9/2001	On Airport	N8232M	Cessna 210	M	Based Part 91	0	ME & PE	On the first flight following an annual inspection during night VFR conditions, the landing gear would not fully extend and the right main gear collapsed upon landing. This was due to the failure of maintenance personnel to properly diagnose the cause of a reported maintenance discrepancy and the pilot's improper handling of the emergency.
6/4/2001	On Airport	N209TA	Piper Navajo	M	Based Part 135	0	ME	When the aircraft touched down at VGT the right main gear collapsed due to fatigue failure of a landing gear component.
5/19/2001	Off Airport	N9820R	Beech M35	M	Based Part 91	1	ME & PE	The aircraft collided with obstructions during a forced landing precipitated by a loss of power. The probable cause was the pilot's failure to properly install an oil filter during an owner-assisted annual inspection, which resulted in oil exhaustion and a loss of power.
4/1/2001	On Airport	N9572H	Cessna 172	M	Based Part 91	0	PE	During an aborted landing the pilot collided with a fence due to his inadequate compensation for existing cross wind conditions and his failure to maintain runway alignment.

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 Accidents more than 10 nautical miles (NIM) from the airport are excluded and are identified as shaded

12/14/2000	Off Airport	N7189K	Robinson R-22 Helicopter	M	Based Part 91 Instructional	0	PE	During an autorotation landing the helicopter touched down hard resulting in substantial damage due to the instructor's inadequate supervision of the second pilot.
9/22/2000	On Airport	N2963P	Piper PA-22	M	Transient Part 91	0	PE	During landing the aircraft veered off the runway and the nose gear collapsed due to the pilot's inadequate compensation for gusty and variable cross wind conditions.
9/16/2000	On Airport	N27CG	Stevens Starduster II	E	Based Part 91 Instructional	0	ME	On the landing rollout the aircraft ground looped causing substantial damage due to the failure of a mechanical component in the tail wheel.
9/2/2000	On Airport	N739HA	Cessna 172	M	Based Part 91	0	PE	While attempting to land on Runway 25 the aircraft landed in the dirt off the runway due to the failure of the pilot to maintain proper airspeed which resulted in a stall.
7/28/2000	On Airport	N3386D	Cessna 180	M	Transient Part 91	0	PE	The aircraft bounced on landing and veered off the runway causing the right main landing gear to separate from the aircraft due to the pilot's failure to maintain directional control.
4/28/2000	On Airport	N2193S	Cessna 210	M	Transient Part 91	1	PE	During a go-around attempt the aircraft impacted the ground and it was destroyed due to the pilot's failure to maintain control during cross wind conditions.
4/28/2000	On Airport	N9344C	Cessna 180	M	Based Part 91	0	PE	The aircraft landed right of the runway centerline and then nosed down causing substantial damage due to the pilot's inadequate compensation for existing cross wind conditions.

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 Accidents more than 10 nautical miles (NIM) from the airport are excluded and are identified as shaded

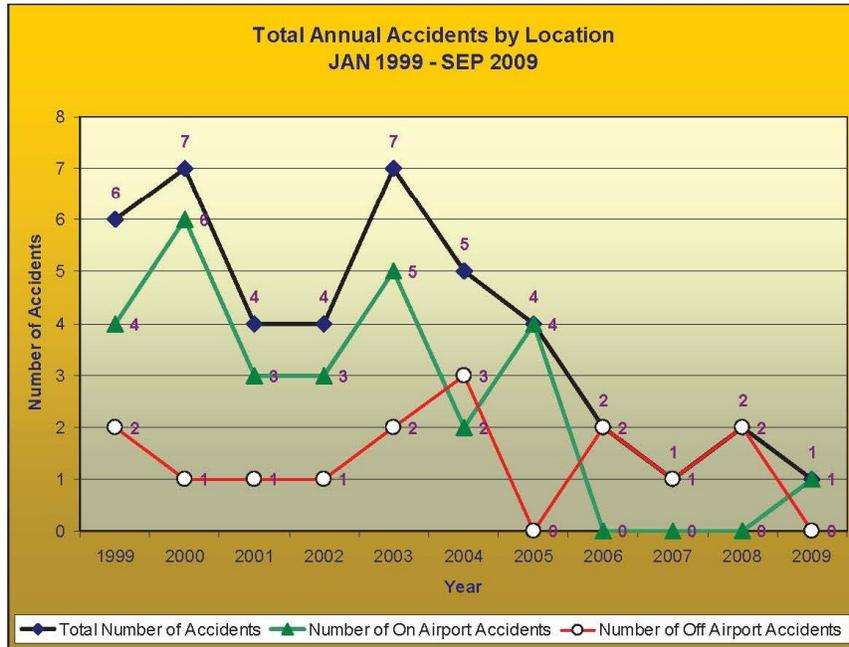
10/14/1999	Off Airport	N1024B	Piper Navajo	M	Based Part 135	1	PE	The aircraft collided with mountainous terrain after takeoff from VGT due to the pilot's lack of situational awareness and various errors on the part of air traffic controllers.
8/29/1999	Off Airport	N40RP	Cessna P210	M	Based Part 91	0	PE	The aircraft was in the traffic pattern when the engine lost power due to the pilot's failure to follow recommended procedures for use of the fuel pump. The aircraft subsequently collided with the ground causing substantial damage.
8/20/1999	Off Airport	N2654W	Mooney M20	M	Based Part 91	1	PE	The aircraft was in the traffic pattern when it began a wing rocking motion and descended until it collided with a tree and a residence, causing an explosion and fire. It was determined the pilot executed a steep turn at low altitude resulting in an accelerated stall and loss of control.
7/2/1999	On Airport	N180HW	Cessna 180	M	Based Part 91	0	PE	During the takeoff roll the aircraft experienced a gust of wind that nosed it over due to the pilot's failure to compensate for the existing cross wind conditions.
5/8/1999	On Airport	CGIUX	Cessna 172	M	Transient Part 91	0	PE	During an aborted landing the aircraft struck a chain link fence and impacted the ground due to the pilot's premature rotation and failure to attain and maintain sufficient airspeed.

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 Accidents more than 10 nautical miles (NIM) from the airport are excluded and are identified as shaded

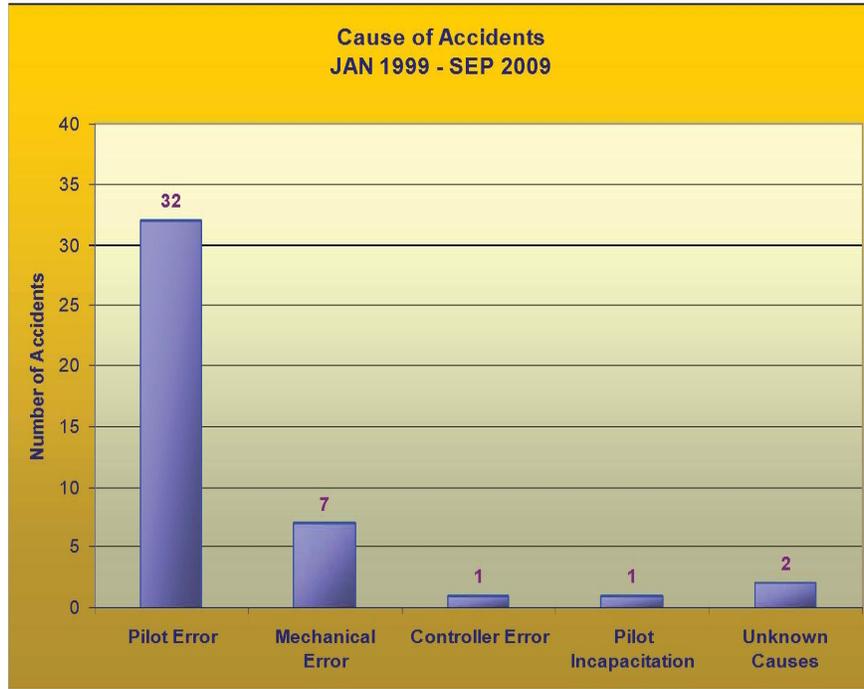
4/10/1999	Off Airport	N88212	Bellanca 7KCAB	M	Based Part 91	0	PE	While performing aerobatic maneuvers at altitude the control stick became jammed, the pilot was unable to regain control, and he abandoned the aircraft and parachuted to the ground. It was determined this was due to the pilot's failure to secure loose items in the cockpit before attempting aerobatic maneuvers.
4/10/1999	On Airport	N3289L	Cessna 172	M	Based Part 91	0	PE	On takeoff the aircraft veered to the right and struck a taxiway sign due to the pilot's failure to maintain directional control.
1/31/1999	On Airport	N58431	McDonnell Douglas 369D	M	Based Part 91	0	PE	While performing a practice autorotative landing the tail stinger contacted the ground due to the pilot's failure to properly judge the landing flare maneuver.
1/17/1999	Off Airport	N857JA	Abraham J G II/Erickson K One design	E	Based Part 91	0	ME	The pilot pressed the left rudder pedal while practicing outside snap rolls. The rudder pedal went all the way to the floor with no resistance. The cable had separated from the rudder horn due to the improper installation. The aircraft entered an unrecoverable right bank and the pilot parachuted to safety.

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 Accidents more than 10 nautical miles (NIM) from the airport are excluded and are identified as shaded

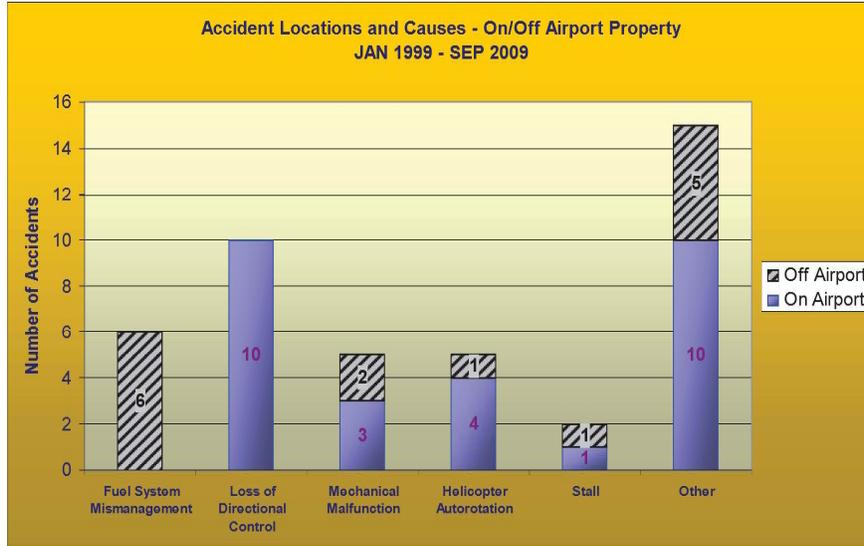
Appendix C – Total Annual Accidents by Location



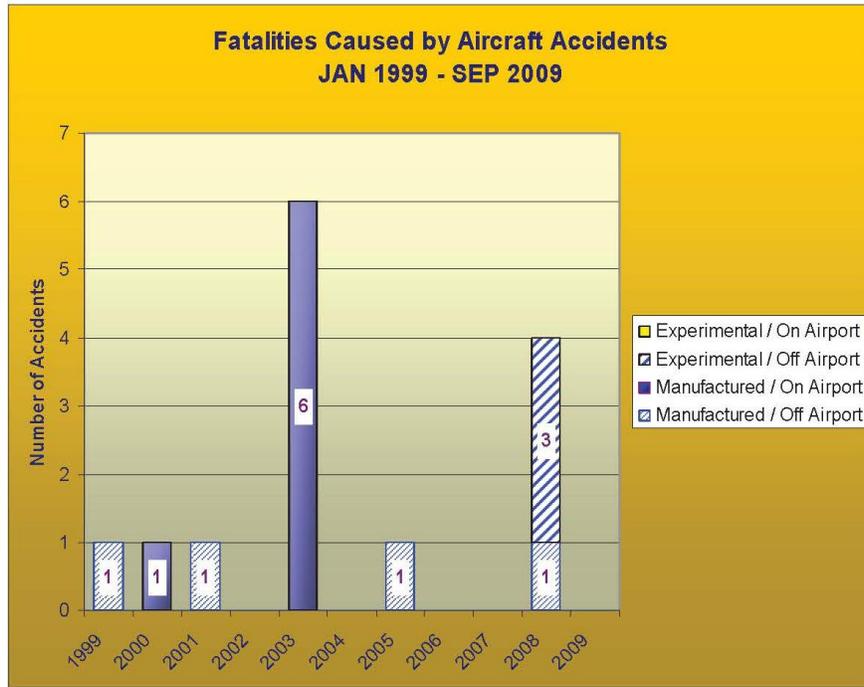
Appendix D – Cause of Accidents



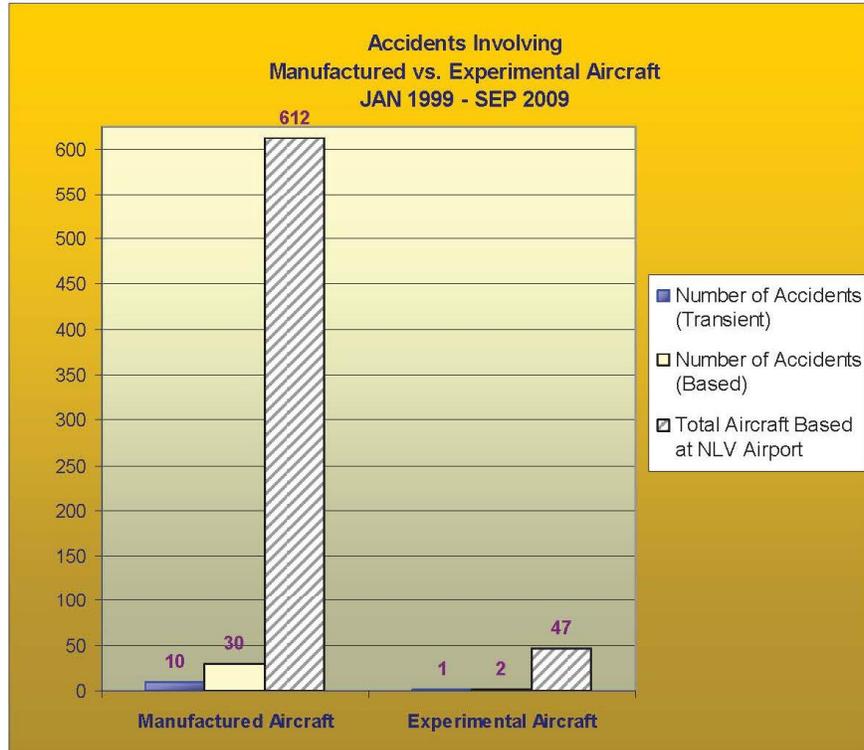
Appendix E – Accident Locations and Causes – On/Off Airport Property



Appendix F – Fatalities Caused by Aircraft Accidents



Appendix G – Accidents Involving Manufactured vs. Experimental Aircraft



GLOSSARY

Aircraft Accident – An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight and all such persons have disembarked, and in which any person suffers death or serious injury, or in which the aircraft receives substantial damage. (*National Transportation Safety Board, 49 Code of Federal Regulations, Part 830.2*)

Based Aircraft – An aircraft that is operational & air worthy, which is typically based at an airport for the majority of the year. (*Federal Aviation Administration, National Based Aircraft Inventory Program, Frequently Asked Questions*)

Experimental Aircraft – A special airworthiness certificate in the experimental category is issued to operate an aircraft that does not have a type certificate or does not conform to its type certificate and is in a condition for safe operation. Additionally, this certificate is issued to operate a primary category kit-built aircraft that was assembled without the supervision and quality control of the production certificate holder. Special airworthiness certificates may be issued in the experimental category for the following purposes: research and development, showing compliance with regulations, crew training, exhibition, air racing, and market surveys. (*Federal Aviation Administration website, www.faa.gov*)

Flight School – Any pilot school, flight training center, air carrier flight training facility, or flight instructor certified under 14 CFR Part 61, 121, 135, 141, or 142; or any other person or entity that provides instruction under 49 United States Code (U.S.C.) Sub-title VII, Part A, in the operation of any aircraft or flight simulator. (*Transportation Security Administration, 49 Code of Federal Regulations, Part 1552.1*)

Flight Training – Training, other than ground training, received from an authorized flight instructor in flight in an aircraft. (*Federal Aviation Administration, 14 Code of Federal Regulations, Part 61.1*)

Transient Aircraft – Operations that are performed by an aircraft, either Instrument Flight Rules (IFR), Special Visual Flight Rules (SVFR), or Visual Flight Rules (VFR) that lands at an airport, arriving from outside the airport area, or departs an airport and leaves the airport area (This is synonymous with itinerant aircraft). (*Federal Aviation Administration website, www.faa.gov*)

Part 91 – The Federal Aviation Regulation that governs the operation of aircraft within the United States, including such items as minimum safe altitude, radio communications and air traffic control procedures. Most general aviation pilots and aircraft operate under this regulation (14 CFR Part 91.1(a)).

Part 135 – The Federal Aviation Regulation that governs the commuter or on-demand operations of each person holding an Air Carrier Certificate or Operating Certificate (14 CFR 135.1(a)).

Part 139 – The Federal Aviation Regulation that governs the certification and operation of airports in the United States serving any scheduled passenger-carrying operation of an air carrier operating aircraft designed for more than 9 passenger seats (14 CFR Part 139.1(a)).

IFR – An acronym for Instrument Flight Rules, a set of rules governing the conduct of flight under instrument meteorological conditions, or periods of inclement weather with reduced visibility (www.faa.gov).

VFR – An acronym for Visual Flight Rules, a set of rules that governs flight during visual meteorological conditions, or periods of fair weather (www.faa.gov).

Response to Letter No. 21 Dave Anderson

- 21.1 Please refer to Master Response 2.0-1 (Master Airport Compatibility Response).
- 21.2 Please refer to Master Response 2.0-1 (Master Airport Compatibility Response).
- 21.3 Please refer to Master Response 2.0-1 (Master Airport Compatibility Response).
- 21.4 Please refer to Master Response 2.0-1 (Master Airport Compatibility Response).
- 21.5 Please refer to Master Response 2.0-1 (Master Airport Compatibility Response).
- 21.6 Please refer to Master Response 2.0-1 (Master Airport Compatibility Response).
- 21.7 Please refer to Master Response 2.0-1 (Master Airport Compatibility Response).
- 21.8 Please refer to Master Response 2.0-1 (Master Airport Compatibility Response).
- 21.9 Please refer to Master Response 2.0-1 (Master Airport Compatibility Response).
- 21.10 Please refer to Master Response 2.0-1 (Master Airport Compatibility Response).
- 21.11 Please refer to Master Response 2.0-1 (Master Airport Compatibility Response).
- 21.12 Please refer to Master Response 2.0-1 (Master Airport Compatibility Response).
- 21.13 Please refer to Master Response 2.0-1 (Master Airport Compatibility Response).
- 21.14 Please refer to Master Response 2.0-1 (Master Airport Compatibility Response).

Comment Letter No. 22

Dear Planning Commission Members,

I am writing to request an agenda item at the next available planning commission meeting or at the soonest appropriate time available. I would like the planning commission to address the significant impacts identified in the traffic and transportation analysis in the Revised Ellis EIR. I am specifically concerned that mitigation measures proposed for the Corral Hollow/Valpico Road intersection and the Corral Hollow/Old Schulte Road intersection will not be accomplished. I am also concerned how the one lane section of Corral Hollow Road from Linne Road to Old Schulte Road will be improved as the Draft Revised EIR does not address or provide mitigation for the significant impacts of the Ellis Project to this degraded rural roadway.

22.1

I have lived on Corral Hollow Road for over 20 years. During that time the city has developed thousands of homes on Corral Hollow Road but the impacts to the rural county road in front of my house have not been addressed. Presumably all of these projects have been required to contribute to a capital improvement fund to address the traffic impacts to Corral Hollow Road. Despite the thousands of homes being built Corral Hollow Road has not been improved to handle the significant volumes of traffic created by these developments.

22.2

Recently I have witnessed an increasing amount of traffic accidents in front of our home. A pedestrian and a bicycle rider have been struck by passing cars directly in front of my home. There are no sidewalks or bike lanes to accommodate the ever increasing number of pedestrians and bicycle riders traveling from the city's subdivisions across our very dangerous rural stretch of Corral Hollow Road. In another incident several months ago a truck plowed through our neighbor's yard and destroyed their fence and landscaping and was finally halted by our fence.

22.3

The Ellis Draft Revised EIR identifies significant traffic impacts to the Corral Hollow/Valpico Road intersection. The impacts are based on a traffic study conducted in 2007 by the city's consultant. Since that time St Bernard's Church has located its Holy Family Center at the intersection. The 2007 traffic study does not capture the magnitude of traffic that now occurs at that intersection or the rest of Corral Hollow Road. The Draft Revised EIR predicts upwards of 3,000 vehicle trips generated by the Ellis Project. (Draft Revised EIR Table 4.13-10) The EIR proposes mitigation measure 4.13-5 which requires the applicant to pay his fair share toward improving the intersection. Historically the city has collected fees from developers to improve Corral Hollow Road but no significant improvements have made to alleviate the impacts to the Corral Hollow/Valpico Road intersection or the stretch of Road between Valpico Road and Old Schulte Road.

22.4

What is needed is an honest assessment of the cost to improve both the Valpico/Corral Hollow Road intersection and the rest of Corral Hollow Road between and including the Corral Hollow/ Old Schulte Road intersection. After that assessment has been made the existing capital improvement fund balances dedicated to improving these intersections and this section of the road needs to be presented. The difference between the construction estimate and the balances in the capital improvement funds need to be fronted by the developer before construction on the Ellis Project begins not at the discretion of the city's traffic engineer as proposed.

22.5

22.6

I am also concerned with the single lane section of Grantline Road between Corral Hollow Road and Byron Highway since due to the city's propensity to develop first and provide infrastructure later my mother in law was killed in a traffic accident in 2008. These conditions still exist today four years later after the city has approved and constructed Winco and the Wall Mart Superstore with allegedly these developments paying their fair share to improve that stretch of road. I would like to have the city present a similar analysis requested above for Corral hollow Road. IE: We would like to have an honest estimate of the cost to improve this stretch of road including intersections and an accounting of the money dedicated to the capital improvement funds for this stretch of road to date. The developer of the Ellis Project can then fund the improvements before construction begins on Ellis and they can seek reimbursement through whatever mechanism the city sets up.

22.7

This is the appropriate mitigation since the city has failed to upgrade infrastructure in response to significant traffic impacts from many large developments. I look forward to discussing these issues with the Planning Commission at the next scheduled Planning Commission meeting.

Sincerely,
Susan Sarvey

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Response to Letter No. 22 Susan Sarvey

- 22.1 The Draft Revised EIR mitigation measure clearly indicates that the intersection of Corral Hollow Road\ Valpico Road will be operating at acceptable LOS with implementation of the identified improvement for both project and cumulative conditions. If the intersection is operating at adverse LOS at the time the project is constructed, the intersection will be improved to fully mitigate the project traffic. The Revised Draft EIR also indicates that the developer will improve and fund the improvement upfront if the City has not collected sufficient funds for construction of the intersection.
- 22.2 The future improved roadway on Corral Hollow will include Class 2 bike lanes. The improved roadway will improve the traffic conditions to acceptable conditions as indicated in the Revised Draft EIR.
- 22.3 The future improved roadway on Corral Hollow will include sidewalks on both sides of the road.
- 22.4 RBF conducted updated traffic counts at the intersection of Corral Hollow Road\ Valpico Road and re-evaluated the previously stated impact and identified mitigation measure as part of this Final Revised EIR process. It should be noted that no new approved projects have been constructed in the project area, minor development has been constructed which is accounted for in the 2011 and 2012 traffic counts. The 2012 AM peak hour volumes increased and the PM peak hour volumes decreased compared to the DREIR volumes and the delay subsequently increased by 5.1 seconds per vehicle in the AM peak hour and decreased by 5.6 seconds per vehicle in the PM peak hour. Based on this updated analysis, we have validated that even under the updated conditions, though the delay increases in the AM peak hour, the LOS remains at C and the threshold (LOS E or worse) for triggering a new impact under CEQA did not occur. Further, the proposed mitigation measure will remain unchanged and the intersection will continue to operate at acceptable LOS conditions.

As identified in the Draft Revised EIR, under the Existing plus Project conditions, the LOS will deteriorate to F in both the AM and PM peak hours. Upon implementation of the proposed mitigation measure, the LOS will improve to C in the AM peak hour and D in the PM peak hour.

Existing AM and PM Peak Hour Intersection Traffic Volumes Corral Hollow Road / Valpico Road

Study Intersection	Year	AM PEAK HOUR												
		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
8 Corral Hollow / Valpico	2006 (DEIR)	60	192	33	85	150	15	5	57	49	71	219	128	1064
	2012	145	176	31	88	158	44	15	91	74	68	201	135	1226
	<i>Growth (+,-)</i>	85	-16	-2	3	8	29	10	34	25	-3	-18	7	162
Study Intersection	Year	PM PEAK HOUR												
		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
8 Corral Hollow / Valpico	2006 (DEIR)	32	227	61	191	206	8	21	330	70	16	119	134	1415
	2012	52	255	64	143	183	11	12	287	68	38	149	151	1413
	<i>Growth (+,-)</i>	20	28	3	-48	-23	3	-9	-43	-2	22	30	17	-2

Source: Fehr & Peers, 2007. Validated by RBF Consulting, April 2012, October 2012
*2012 traffic counts conducted 9/27/2012

Existing AM and PM Peak Hour Intersection Level of Service Corral Hollow Road / Valpico Road

Study Intersection	Jurisdiction / LOS Threshold	Type of Control	AM PEAK HOUR				PM PEAK HOUR					
			DEIR (2006)		Revised per DEIR Comments*		DEIR (2006)		Revised per DEIR Comments*			
			Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS		
8 Corral Hollow / Valpico	Tracy / D	AWS	Overall		15.6	C	20.7	C	44.1	E	38.5	E

Source: Fehr & Peers, 2007. Validated by RBF Consulting, April 2012, October 2012
*Revised traffic counts conducted 9/27/2012
Notes: Shading indicates LOS threshold is exceeded.
AWS = all-way stop-controlled intersection
SSS = side-street stop-controlled intersection

Existing plus Modified ESP AM and PM Peak Hour Intersection Level of Service Corral Hollow Road / Valpico Road

Study Intersection	Jurisdiction / LOS Threshold	Type of Control	AM PEAK HOUR				PM PEAK HOUR							
			DEIR (2006)		Revised per DEIR Comments		DEIR (2006)		Revised per DEIR Comments					
			Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS				
8 Corral Hollow / Valpico	Tracy / D	AWS	Overall				94.5	F	144.5	F	363.2	F	362.8	F

Source: Fehr & Peers, 2007. Validated by RBF Consulting, April 2012, October 2012
 *Based on revised traffic counts conducted 9/27/2012
 Notes: Shading indicates LOS threshold is exceeded.
 AWS = all-way stop-controlled intersection

Intersection Mitigations based on 2012 Traffic Count Data Corral Hollow Road / Valpico Road

Study Intersection	Existing LOS				Existing Plus Project LOS				Intersection Improvement	Mitigated LOS			
	AM Pk. Hr.		PM Pk. Hr.		AM Pk. Hr.		PM Pk. Hr.			AM Pk. Hr.		PM Pk. Hr.	
	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS		Delay (Sec)	LOS	Delay (Sec)	LOS
8 Corral Hollow / Valpico (County Facility)	20.7	C	38.5	E	144.5	F	362.8	F	Signalize Widen SB approach to provide 1 TL & 1 TR Lane	22.9	C	37.8	D

Source: Fehr & Peers, 2007. Validated by RBF Consulting, April 2012, October 2012
 Notes: SB = Southbound

As identified in the table below, the installation of a signal and widening of the southbound approach, as identified in the DREIR to the intersection of Corral Hollow Road/ Valpico Road will be triggered when the proposed project generates one or more trips. Thus the project shall provide the appropriate funding for mitigation of project impacts at the intersection of Corral Hollow and Valpico at the time of the first building permit application. The Draft Revised EIR indicates that the developer will either pay a fair share toward the proposed improvement, as required by AB1600, or implement the improvement if the City does not have the necessary funding to implement the improvement, as required by CEQA, to mitigate the impact.

**Project Trip Generation Thresholds That Triggers Mitigation:
Corral Hollow Road / Valpico Road**

Study Intersection	Number of Peak Hour Project Trips Added that Initiate Mitigation (Worst Peak Hour)	Assumed Land Use
8 Corral Hollow / Valpico	1 (AM Peak Hour)	1 dwelling unit
Source: RBF Consulting October 2012 Note: The land use quantities presented in this table are potential land uses and for reference purposes only. The added peak hour trip indicated above is based upon worst peak hour (peak hour that first exceeds LOS threshold).		

- 22.5 The cost to improve the intersection is estimated at \$723,211, which includes the construction of turn lanes, widening of the cross section and the modification of the signal.

- 22.6 The majority of Corral Hollow Road segments north of Ellis up to Old Schulte Road are within the San Joaquin County limits and out of the City’s jurisdiction. San Joaquin County has maintained this portion of Corral Hollow road to the County standards and completed certain improvements during the past few years. Once more properties are annexed into the City and this segment is within the City’s jurisdiction, the roadway segment will be improved in accordance with the City of Tracy’s Draft City of Tracy Transportation Master Plan. The project will pay a fair share towards widening the roadway. The widening of the roadway is identified in the Draft City of Tracy Transportation Master Plan. The estimated cost for widening Coral Hollow Road between Valpico Road and Schulte Road is \$2,635,421. The estimated cost for improving Corral Hollow Road and Schulte Road is \$1,204, 158. This statement is correct and the possibility of funding the improvements upfront is clearly identified on page 4.13-39 of the Revised Draft EIR.

- 22.7 The City-wide TMP indicates the widening and reconstruction of this section of roadway. Signalization of the intersection of Byron Road and Grant Line Road is currently being designed for implementation by the County.