P10-00100-ALUC JMcD

CITY of NAPA

COMMUNITY DEVELOPMENT DEPT.
PLANNING DIVISION
1600 First Street
Mailing Address:
P.O. Box 660
Napa, California 94559-0660
Phone: (707) 257-9530
Fax: (707) 257-9522

RECEIVED
MAR 23 2010
NAPA CO. CONSERVATION
DEVELOPMENT & PLANNING DEPT.

March 23, 2010

Mr. John McDowell, Deputy Executive Officer
Napa County Airport Land Use Commission
1195 Third Street
Napa, CA 94559

Re: St. Regis Napa Valley Resort – Airport Land Use Consistency Determination; ALUC File No. P10-0003-ALUC, March 16th Meeting With Airport Manager, IASCO/JAL Manager, and Napa Air Traffic Control Tower Chief

Dear Mr. McDowell:

The March 3, 2010 memo from Executive Deputy Director, John McDowell, to the Airport Land Use Commission provided five specific items that the City of Napa should address in order to achieve consistency with the Napa Airport Land Use Compatibility Plan (copy attached). Item 1 reads:

1. Pursuant to Footnote 7 of Table 3-2 of the ALUCP, please have a certified aviation consultant prepare an analysis of "...the proximity of flight patterns, frequency of over-flight, terrain conditions, and type of aircraft in determining acceptable location of residential uses." The analysis should compile and analysis flight track data and over-flight characteristics from sources including, but not limited to, site visit observation, consultations with the Napa County Airport Manager, Federal Aviation Administration (FAA) control tower operators, and management of IASCO/ JAL (Japan Air lines) flight training school. The study should include a professional recommendation, based on guidance from the FAA, Caltrans Aeronautics, and any other applicable policies or requirements, addressing whether the placement and design of the proposed whole-ownership and fractional-ownership vineyard units meets airport land use compatibility.

In response to that direction from you, on March 16, 2010 the City of Napa attended a meeting with Martin Pehl, Manager of the Napa County Airport, Mark Thoren, manager of the IASCO flight training school, Carol Dryden, Napa Air Traffic Control Tower Chief and Doreen Stockdale, Tower Assistant. Also in attendance were Austin Wiswell, Aviation consultant with Michael Brandman and Associates (MBA) and Beth Painter, representative for the St. Regis Napa Valley project. Attached is a memorandum prepared by Jason Brandman, principal at MBA, addressing the location of units and design features that address the over-flight concerns; included in that memorandum is the summary prepared by Mr. Wiswell that documents his assessment of over-flight, using both information in the record (such as the 2005 Mead Hunt Analysis commissioned by the Napa County ALUC and the 2007 Napa Airport Master Plan) as well as the additional information provided at the March 16, 2010 meeting.

As a brief summary, based on the additional information provided we believe that the conceptual plan locating the whole ownership units on the edges of the site and conditions of approval that require both design elements for noise attenuation and over-flight easement and notices address footnote 7 of table 3-2. However, this does not constitute the final recommendation from a professional consultant regarding the placement and design of the proposed whole-ownership and fractional-ownership vineyard units related to the over-flight. As you know, the project does not include a final design for approval at this stage. Because of this, City of Napa has included a specific condition (Special Condition #2) that includes your request to require that this analysis be included again as a part of final site plan and design review, and new language has been added to the design guidelines to require special consideration of airport noise, particularly in areas exposed to the outdoors. Therefore, at this stage of Zoning and General Plan Amendment review we believe that the analysis requested is whether the design requirements that are proposed with both the design guidelines and the Master Use Permit provide sufficient detail and protections to assure that the project will require appropriate analysis and incorporate design features that include measures to address over-flight. In addition, the Airport agreed to provide additional data and information in the near future. That information will continue to be compiled by the City and used in the final design review process consistent with the new conditions of approval.

During the March 16 meeting, the Airport Manager expressed concern with our proposed condition #6 regarding notification to the Airport Manager. It is our understanding that the Airport would prefer that this condition place the obligation on the resort to obtain information on Airport activities when planning larger events. We have revised that condition to address the concern of the Airport Manager to read:

> The Resort Operator shall contact the Napa Airport Manager to obtain information on scheduled air traffic that may take place at the same time the resort intends to use outdoor areas for large events of more than 500 persons. The Resort Operator will make efforts to schedule such events outside the time windows when extremely high air traffic activity is scheduled.

We hope that this information assists in your review of the Project for consistency and adequately addresses the ALUC concerns outlined in your March 3, 2010 memo.

If you have any questions on these matters, please contact me at (707) 257-9630 or e-mail me at mallen@cityofnapa.org

Sincerely,

Michael Allen
Associate Planner

Michael Brandman Associates

Fresno
559.497.0310

Irvine
714.508.4100

Palm Springs
760.322.8847

Sacramento
916.447.1100

San Bernardino
909.884.2255

San Ramon
925.830.2733

March 23, 2010

Michael Allen, Associate Planner
City of Napa, Community Development Department
1600 First Street
Napa, CA 94559

Subject:

Dear Mr. Allen:

Michael Brandman and Associates (MBA) has been retained by the City of Napa as the environmental consultant in its review of the St. Regis Napa Valley Project. As such, we have reviewed the conceptual design and layout used in the Application and analyzed in the EIR, we have also reviewed the Airport Land Use Compatibility Plan (ALUCP) as well as other Land Use plans and Policies relevant for the City's evaluation of the project. Specifically related to Airport compatibility issues and analyses, Austin Wiswell, Aviation consultant has acted a sub-consultant to MBA. Mr. Wiswell is an Aviation Operations and Safety Consultant with significant experience in aeronautics and specifically with Caltrans' Division of Aeronautics, where he served as Division Chief for five years, until 2005. He was responsible for the management of the update to the State Airport Land Use Planning Handbook, the 2002 edition.

The purpose of this summary is to provide to the City of Napa and the Napa County Airport Land Use Commission (ALUC) information and analysis related to the additional data and analysis compiled by Mr. Wiswell (attached) and to the updated conditions of approval developed in response to the direction provided by the ALUC at its March 3, 2010 ALUCP compatibility review hearing.

Based upon review of the overflight information and review of the additional conditions of approval and changes to the Design Guidelines, MBA has compiled the following key conclusions for the ALUC and the City of Napa in its review of the Project:

- Data provided from the Napa Airport and from the IASCO training school shows that planes using the Napa Airport will fly in proximity to the site, even on a regular basis and over the site on occasion. The majority of the flights (over 50%) are IASCO training flights, which are not directly over the St. Regis project area.
- The actual noise from these planes as experienced on the ground is relatively low (below Caltrans Aeronautics CNEL level of 65 dBA and outside the Napa County Airport 55 CNEL contour). This is consistent with the noise contour data included in the ALUC plan (and is consistent with the actual data included in the project DEIR). Therefore, the conclusion that can be drawn is that it is not the single event level of noise that poses a potential impact, instead it is the potential frequency of occurrence that most likely would give rise to complaints about aircraft.
- Data complied by the state shows that a very small percentage of the population is bothered by this level and frequency of noise (cite Ca. Aeronautics Handbook). Even though only a small percentage of population is bothered, strict measures have been included to both disclose the potential for this noise and to reduce exposure to noise.

Regarding location of the vineyard units, the ALUC provided the following direction in its item 1:

> Pursuant to Footnote 7 of Table 3-2 of the ALUCP, please have a certified aviation consultant prepare an analysis of "...the proximity of flight patterns, frequency of over-flight, terrain conditions, and type of aircraft in determining acceptable location of residential uses." The analysis should compile and analysis flight track data and over-flight characteristics from sources including, but not limited to, site visit observation, consultations with the Napa County Airport Manager, Federal Aviation Administration (FAA) control tower operators, and management of IASCO/JAL (Japan Air lines) flight training school. The study should include a professional recommendation, based on guidance from the FAA, Caltrans Aeronautics, and any other applicable policies or requirements, addressing whether the placement and design of the proposed whole-ownership and fractional-ownership vineyard units meets airport land use compatibility.

MBA has reviewed the information and analysis compiled by Mr. Wiswell (summarized above), his letter dated March 2, 2010 to the ALUC and the supporting documents. In addition MBA has reviewed the application, proposed regulations and conceptual plans. Based on our review, in regard to the conceptual layout for zoning and master plan purposes, the vineyard units that can be occupied as residences have been conceptually planned and located with consideration given to the proximity to flight patterns, frequency of overflight, terrain conditions and type of aircraft. The units are all located on the edges of the project and farthest away from the established Common Flight Pattern, the most frequent overflight and away from the D/E lines. Topography was an important consideration in determining the location of the residential uses to site them in lower elevation portions of the site. The units also are clustered in small groups, as encouraged by the ALUC Plan (Table 3-2, footnote 2). Importantly, final design requires continued and further consideration of the proximity to flight patterns, frequency of overflight, terrain conditions and type of aircraft. The fractionally owned units are required to be used as transient units. Notwithstanding this requirement, those units have been removed from Zone D and placed into Zone E to eliminate potential inconsistencies with the ALUCP in the event the ALUC defines the use differently than the City of Napa. Lastly, final design also will require incorporation of sound attenuation into the units themselves.

Notwithstanding the design aspect, which will be determined through Design Review at the City of Napa consistent with ALUCP Footnote 7, Table 3-2, "buyer awareness" measures are required by the City of Napa conditions of approval, consistent with the ALUCP and the State's Airport Land Use Planning Handbook.

As additional information, and in addition to the conditions already included in the project, the following special conditions have been added to assure long term compatibility with the Airport:

- Resort Operator, Buyer and Guest Awareness:
    - New conditions of approval imposed by the City of Napa will further disclosure noise sources to guests and owners (Special Condition #7).
    - Special Condition #6 will require that the resort operator obtain information regarding flight traffic prior to planning large events that will use outdoor areas.
- Conceptual and Final Design:
    - Special Condition #8 includes a list of amendments made to the Design Guidelines and Design Guidelines have been modified accordingly.
    - Special Condition #5 requires special consideration for the design of event spaces.

Lastly two project elements were changed to address ALUC compatibility concerns:

- Transient units that have an ownership component have been moved out of Zone D and into Zone E (Special Condition #3).
- Bird Hazards: (1) Special Condition #4 requires preparation of a wildlife management plan, and (2) Special Condition #8 requires that the Design Guidelines include measures regarding pond construction to reduce the potential for the creation of breeding and foraging areas and Design Guidelines have been modified accordingly.

We believe that the review and incorporation of these items achieve consistency with the ALUCP as directed by the ALUC on March 3, 2010.

Sincerely,

Jason Brandman, Vice President
Michael Brandman Associates
Bishop Ranch 3
2633 Camino Ramon, Suite 460
San Ramon, CA 94583

Enc: . Flight Track Analysis Report

Michael Allen, Associate Planner
Community Development Department
City of Napa
1600 First Street
Napa, CA 94559

March 22, 2010

Dear Mr. Allen:

This is the report of the Napa County Airport Land Use Commission's request that representatives of the City of Napa meet with representatives of the Napa County Airport management, the management of the IASCO/JAL flight training activity, and the Federal Aviation Administration airport Air Traffic Control Tower to discuss their perspectives of routine aircraft operations that might overfly the site of the proposed St. Regis Resort. This request is in conjunction with a City of Napa proposed General Plan amendment and zoning change that would allow the creation of a 93 acre St. Regis Resort.

Principles present at the subject March 16, 2020, meeting were Martin Pehl, Manager, Napa County Airport; Mark Thonen, General Manager, Flight Training Division, IASCO; Carol Dryden, Manager, Napa Air Traffic Control Tower; Michael Allen, City of Napa; Beth Painter, representing the St Regis project applicant, and myself as consultant to the City of Napa for aviation matters relative to the project.

The Napa Country Airport Land Use Commission's focused, specific request was to gather any additional information beyond the documents referenced in the ALUCP, the 2005 Mead Hunt report and other flight activity data previously provided to the ALUC in its staff report, specifically related to the proximity of flight patterns, frequency of overflight, and type of aircraft that fly over and near the St. Regis site. This information could either endorse my prior evaluations and conclusion, or refute or modify them. The request centered on Footnote 7, Table 3-2, of the current 1991 (as modified in 1999) Airport Land Use Compatibility Plan for the Napa County Airport. The operative portion of Footnote 7 says: "Consideration should be given to the proximity of flight patterns, frequency of overflight, terrain conditions, and type of aircraft in determining acceptable location of residential uses."

Mr. Pehl, as the airport's Manager, endorsed the 2007 Airport Master Plan as the currently operative source of useable information on air traffic activity at the airport. He was made aware that I had used that in my prior evaluation of project site aircraft overflight issues. Annual aircraft operations, types of aircraft operating at the airport, predominant runway used, and direction, and other operational information are contained in the Master Plan. He opined that slightly over 50 % of total aircraft operations are attributable to the IASCO/JAL flight training activity. The current (February 11, 2010) Federal Aviation Administration Form 5010-1 Airport Master Record shows an estimated 119,607 annual aircraft operations, of which 55,897 are local General Aviation and 58,804 are itinerant General Aviation. These numbers are slightly below the projections of the 2007 Napa County Airport Master Plan.

Mr. Thonen stated that the normal training traffic pattern flown by IASCO aircraft 1.7 miles from runway centerline. This pertains to the landings for the predominant Runway 18R. Takeoffs on Runway 36L likewise maintain 1.7 miles from the runway centerline. Federal Aviation Administration "protected airspace" for the Napa County Airport Visual Flight Rules traffic pattern area for Category C aircraft is a Final Approach Leg of 1.75 nautical miles long, and a Downwind Leg of 1.75 nautical miles laterally from the runway. These distances are for the largest planned aircraft category for the Napa County Airport, a Category C airplane. The IASCO/JAL aircraft are, at most, Category B, but since the JAL trainees are training to fly larger category aircraft, their pattern is wider than most Category B aircraft – again maintaining 1.7 miles from runway centerline, rather than 1.0 miles. It should be noted here that the St. Regis site's closest boundary is slightly over two miles from the northern end of Runway 36L/18R

Total annual IASCO operations of their Beechcraft A-36 and B-58 aircraft was not documented, or provided, but Mr. Thonen said that with but very rare exceptions, all of their flight activity is done on weekdays. Occasionally, when it is unavoidable, there may be a small amount of flight activity on a Saturday.

A range of private, corporate, and recreational aircraft also frequent the airport, ranging from small single-engine aircraft to corporate jets. Because IASCO/JAL training comprises approximately half of the flights, about half of the aircraft engaged in flight to and from the Napa County Airport are by Bonanza and Baron aircraft.

Ms. Dryden did not believe, based on her experience, that aircraft executing the Missed Approach from Runway 36L would routinely overfly the Project site. Subsequent FAA-generated flight track data for Instrument Flight Rules arrivals and departures were provided to me. They show that at altitudes of 3,000 feet Above Mean Seal Level and below, departures from Runways 36L&R do not routinely, regularly overfly the Project site. Arrivals to Runways 18R&L do not overfly the Project site.

Ms. Dreyden did provide information on a soon-to-be-implemented revised instrument flight rules departure procedure. This new departure procedure (a copy of which is attached hereto) may have aircraft overflying the project site as they climb from lift-off to 1,500 feet Above Mean Seal Level at the required rate-of-climb of 445 feet per minute. Possible project site overflight at the 445 feet-per-minute minimum climb rate depends on lift-off point from start of takeoff roll on the 5,931 foot long Runway 36L.

Based on the March 16th discussions with Mr. Pehl, Mr. Thonen, and Ms. Dryden, as well as the materials I previously used in my "consideration" of the factors in Footnote 7 (primarily the 2007 Airport Master Plan and the Airport Land Use Commission's own 2005 Napa County Airport Flight Tracks study), I again state that aircraft taking off from Runway 36L or landing on Runway 18R do not routinely, regularly, directly overfly the St. Regis Resort project site.

In addition, aircraft traveling to and from other airports and not using the Napa County Airport can comprise some of the total volume of traffic flying over or near the Project site. This would be a relatively small amount of flights in comparison to Napa County Airport traffic, and

typically would be at altitudes much greater than the aircraft flying to and from the Napa County Airport.

While some overflight occurs on or near the Project site, it is not excessive or regular when compared to the common flight patterns and approaches to the Napa County Airport. More importantly, previous analyses concluded that repeated single-event noise occurrences were outside the 55 db CNEL contour. No data reviewed or presented conflicts with this conclusion. As I previously stated, the California Airport Land Use Planning Handbook (Chapter 7) shows that only about 3% of the population would be highly annoyed by noise at the 55 db CNEL noise level.

However, because complaints could be generated, even at this low rate of annoyance, the State's Airport Land Use Planning Handbook states that it is important to establish "buyer awareness" measures.

I am not a project designer. Based on the data obtained and reviewed leading to my conclusions regarding overflight, I see no reason to alter my previous conclusion that the Project site can be seen as compatible with the Napa County Airport Land Use Compatibility Plan. This is because, regardless of the final design and layout, this level of overflight should be handled through the existing Avigation Easement and the augmenting buyer hazard notice such as that prescribed by State Law as of January 2004, and as discussed in your Plan.

Based on the information reviewed and the conditions imposed by the City of Napa, as requested by the ALUC staff, I do not change my previously stated opinion and continue to see the Project as materially consistent with your Plan.

Respectfully,

R. Austin Wiswell

CC: Jason Brandman, Michael Brandman associates

Attachments
OZIEE ONE DEPARTURE
Napa County Airport Flight Tracks Study (Mead Hunt; 2005)
Federal Aviation Administration Form 5010-1, Airport Master Record (February 11, 2010)
Table 2A, page 2-7, 2007 Napa County Airport Master Plan
Appendix E, page E-1, E-2, and E-3, 2007 Napa County Airport Master Plan
FAA IFR Departure & Arrival Flight Tracks for R-36L/R (04 March 1020) and R-18R/L (11 March2010)

REVISED CONDITION # 6

i Valley Resort
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R ALUCP COMPATIBILITY

The roval for the St. Regis Napa Valley Resort Master Use
Perr iave been incorporated by the City of Napa into the
Proj

1. The provisions, conditions, and mitigations of the Stanly Ranch Resort Master Plan and Master Use Permit run with the land on the Stanly Ranch Resort parcels (APN: 047-230-049, -050, -051, and -052). The current and any future property owner, hotel or business operator shall be subject to compliance with all provisions, conditions, and mitigations of the Stanly Ranch Resort Master Plan and Master Use Permit.

2. As part of final site plan and design review, the applicant shall provide analysis of "...the proximity of flight patterns, frequency of over-flight, terrain conditions, and type of aircraft in determining acceptable location of residential uses." The analysis should compile flight track data and over-flight characteristics from sources including, but not limited to, site visit observation, consultations with the Napa County Airport Manager, and Airport Tower. The analysis shall include a professional aviation recommendation addressing whether the placement and design of the proposed whole-ownership and fractional-ownership vineyard units have located the units in consideration of the Napa County Airport Land Use Compatibility Plan (ALUCP), Table 3-2, Footnote 7.

3. The final site plan shall not allow any Vineyard Units with an ownership component (whether whole or fractional) to be located within Airport Influence Area Zone D of the Napa County ALUCP.

4. Design Review application shall require the permitee to submit to the City of Napa Planning Department a comprehensive hazardous wildlife management plan for implementation on the project site prepared by a wildlife biologist with airport experience (or in consultation with an aviation consultant) to minimize the potential hazard of wildlife/aircraft conflicts associated with the recycled water storage pond and landscape features, such as the lawns. The Plan shall include monitoring provisions to:
    a. Professionally evaluate wildlife control measures annually;
    b. Immediately establish a seasonal baseline for each season, prior to project construction;
    c. Monitor wildlife populations and wildlife/aircraft conflicts following project opening, and professionally ascertain the need for any wildlife mitigation plan revisions and implementation.

5. Final Design Review shall require analysis of event spaces related to the proximity of flight patterns, frequency of over-flight, terrain conditions, and type of aircraft for the appropriate location of such event spaces. Outdoor event areas shall include indoor or protected spaces to reduce impacts from over-flight noise.

6. The Resort Operator shall contact the Napa Airport Manager to obtain information on scheduled air traffic that may take place at the same time the resort intends to use outdoor areas for large events of more than 500 persons. The Resort Operator will make efforts to schedule such events outside the time windows when extremely high air traffic activity is scheduled.

7. Prior to first occupancy permit for the project, the applicant shall provide and use an "Airport Hazard Disclosure" (in a form acceptable to the City of Napa) to require that the resort provide disclosure of the proximity of the Napa Airport to guests who request use of outdoor areas for special events. The CC & R's shall require that guest complaints regarding airport operations shall only be submitted through the Hotel Manager.

8. The Final Design Guidelines for the Project shall include the following:

    a. Design objectives shall state that the project shall be designed to be compatible with the operations at the Napa County Airport and ALUCP policies;
    b. Design criteria for construction of the pond will be included that reduce the potential for the creation of breeding and foraging areas for migratory birds;
    c. Location of Vineyard Units B shall be limited to areas within Zone E of the Napa County Airport Compatibility Plan; and
    d. Design measures shall be recommended for outdoor areas to reduce exposure to over-flight noise.

Michael Allen, Associate Planner
Community Development Department
City of Napa
1600 First Street
Napa, CA 94559

March 22, 2010

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Respectfully,

R. Austin Wiswell

CC: Jason Brandman, Michael Brandman associates

Attachments
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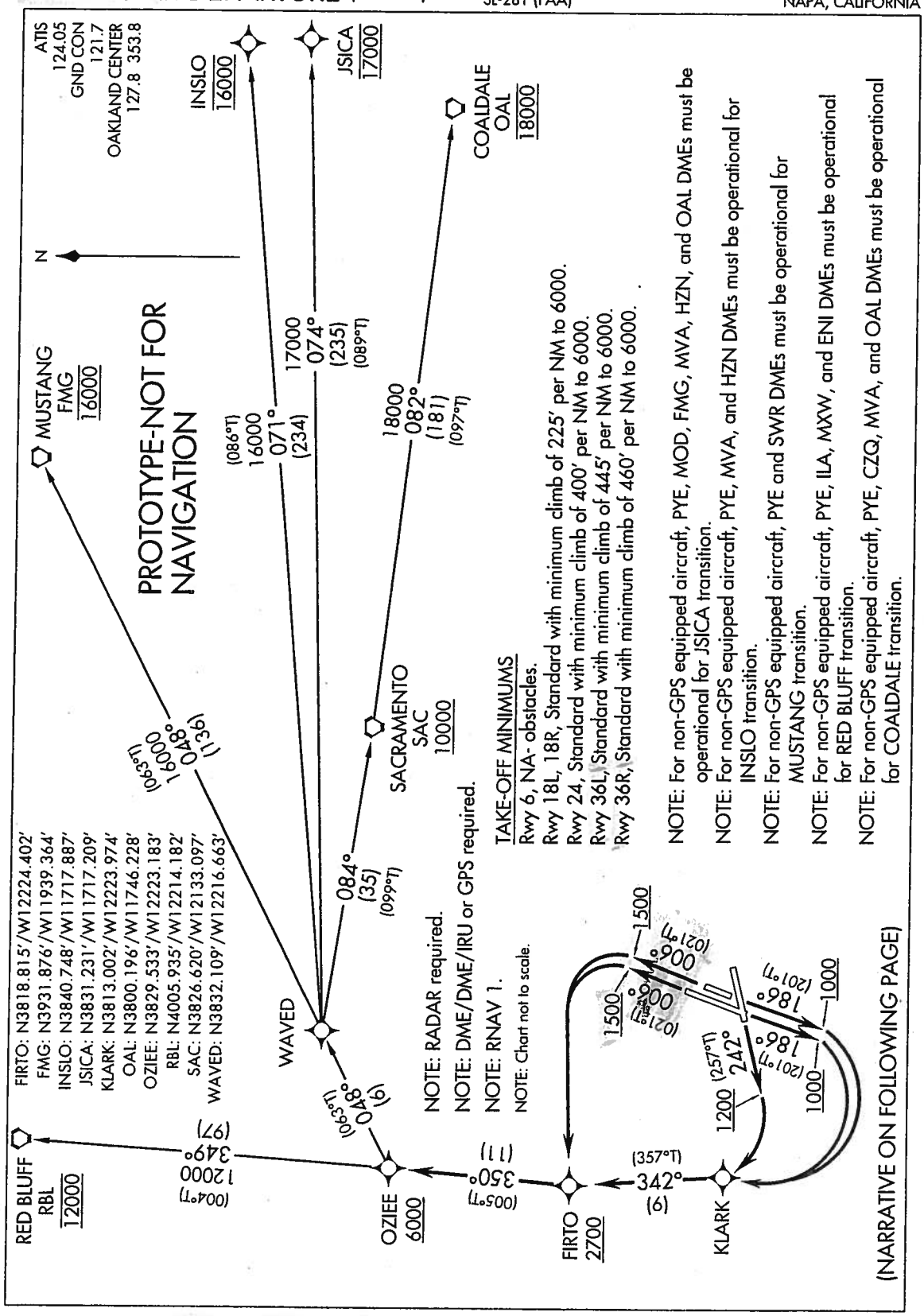
OZIEE ONE DEPARTURE (RNAV)

SL-281 (FAA)

NAPA COUNTY (APC)
NAPA, CALIFORNIA



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NAPA COUNTY (APC)

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OZIEE ONE DEPARTURE (RNAV)

SI-281 (FAA)

NAPA COUNTY (APC)
NAPA, CALIFORNIA

DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAY 18L: Climb heading 186° to 1000', then right turn direct KLARK, and via track 342° to cross FIRTO at or above 2700, and via track 350° to cross OZIEE at or above 6000, thence. . . .

TAKE-OFF RUNWAY 18R: Climb heading 186° to 1000', then right turn direct KLARK, and via track 342° to cross FIRTO at or above 2700, and via track 350° to cross OZIEE at or above 6000, thence. . . .

TAKE-OFF RUNWAY 24: Climb heading 242° to 1200', then right turn direct KLARK, and via track 342° to cross FIRTO at or above 2700, and via track 350° to cross OZIEE at or above 6000, thence. . . .

TAKE-OFF RUNWAY 36L: Climb heading 006° to 1500', then left turn direct to cross FIRTO at or above 2700, and via track 350° to cross OZIEE at or above 6000, thence. . . .

TAKE-OFF RUNWAY 36R: Climb heading 006° to 1500', then left turn direct to cross FIRTO at or above 2700, and via track 350° to cross OZIEE at or above 6000, thence. . . .

. . . .(transition). Maintain 6000, expect filed altitude 10 minutes after departure.

COALDALE TRANSITION (OZIEE1.OAL)
INSLO TRANSITION (OZIEE1.INSLO)
JSICA TRANSITION (OZIEE1.JSICA)
MUSTANG TRANSITION (OZIEE1.FMG)
RED BLUFF TRANSITION (OZIEE1.RBL)

TAKE-OFF OBSTACLE NOTES
Rwy 18R: Tree 3191' from DER, 750' left of centerline, 67' AGL/106' MSL.
Rwy 24: OL on bldg 4950' from DER, 1630' right of centerline, 162' AGL/169' MSL.
Bridge 4963' from DER, 1714' right of centerline, 167' AGL/167' MSL.
Trees beginning at 2651' from DER, 527' left of centerline, up to 104' AGL/133' MSL.
Rwy 36R: Trees beginning 1.43 NM from DER, 1289' right of centerline, up to 79' AGL/385' MSL.
Multiple light poles, beginning 262' from DER, 333' from right of centerline, up to 30' AGL/59' MSL.
Windsock, 628' from DER, 282' left of centerline, 20' AGL/49' MSL.
Rwy 36L: Trees and terrain, beginning at DER, 345' right of centerline, up to 120' AGL/160' MSL.
Railroad 594' from DER, 517' right of centerline, 23' AGL/44' MSL.

PROTOTYPE-NOT FOR NAVIGATION

OZIEE ONE DEPARTURE (RNAV)
NAPA, CALIFORNIA
NAPA COUNTY (APC)
(OZIEE1.OZIEE) FIG

Napa County Airport
Flight Tracks

June 30, 2005

Introduction

Mead & Hunt was tasked with defining the commonly used flight tracks associated with operations at Napa County Airport for the Napa County Airport Land Use Commission. This project was intended to update and refine the flight track diagram previously prepared. Data for this task were developed based upon discussions with:

- Tom Shannon, Air Traffic Manager, Napa Airport Traffic Control Tower, Federal Aviation Administration
- Bob Berthold, JAL Chief Flight Instructor, IASCO
- Susan Chambers, Chief Flight Instructor, Bridgeford Flying Services
- Wayne Lackey, President, Wine County Helicopters
- Napa County Airport Advisory Commission
- Napa Area Pilots Association

Those interviewed were asked to define common flight tracks based upon their experience. In each case a scaled aerial photograph of the Napa County Airport environs was provided as an aid. In many cases those interviewed sketched the flight tracks on the drawing. Mr. Shannon, Air Traffic Manager was interviewed last. As the air traffic controllers now have radar displays in the tower, the opportunity was used to review the flight tracks suggested by others.

There are limitations in trying to map the "commonly used flight tracks" at the Napa County Airport. Essentially every area within three to five miles of the airport is overflown at some time, if only rarely. Some flight tracks are used with high frequency most days of the year. Other flight tracks are only used when crosswinds occur. Other tracks are only used by specific types of aircraft (e.g., helicopters). Given the anecdotal nature of the data, we have defined the common flight tracks in three ways:

- Depicted the centerline of the tracks
- Used shading to depict the broad area in which overflights will occur
- Prepared this textual description.

There are two changes to the airfield that may affect flight tracks. First, a glide slope antenna is planned to be installed that would permit precision approaches to Runway 36R. Secondly, Runway 18L-36R is planned to be extended to 4,000 feet. Those interviewed were asked to anticipate what effect these changes would have on common flight tracks.

The text that follows is intended to aid in the understanding and interpretation of the flight track graphic. Each segment of a standard flight track has a distinct name. In Figure 1 the names of each segment are presented. All references to "miles" are to nautical miles, the standard used in aviation. Nautical miles are larger than statute miles, having 6,076 feet rather than 5,280 feet.

Jets

The jet track for landings on Runway 18R is the track closest to the runway. Jets typically do not fly the downwind segment closer to the runway than shown. Smaller jets will follow downwind tracks that vary from this inner limit out to about 2 miles. During visual meteorological conditions, jets (particularly larger jets) may fly downwind tracks up to 5 miles from the airport. During the circle-to-land maneuver used under instrument meteorological conditions for landings on Runway 18R, large jets may be as much as 3 miles west of Runway 18R-26L. The base segment of the landing track for Runway 18R is the closest that jets typically make. Jets, particularly large jets, often make the turn from base to final up to five miles from the runway end.

Jets arriving from the southeast commonly overfly the airport while descending into a right downwind leg for landings on Runway 18R. Jets arriving from the northeast commonly make a base entry to Runway 18R. The turn from base to final typically occurs at least a couple of miles north of the airport.

IASCO/JAL

IASCO conducts a large pilot training program for Japan Airlines that is based at Napa County Airport. The flight tracks shown in Figure 2 are taken from the school's flight track diagram. However, based upon radar data, it appears that the downwind leg of the track for landings on Runway 18R (the most commonly used track) is typically flown closer to the runway than depicted on the school's flight track diagram. Nonetheless, this flight track is much wider than flown by other piston aircraft.

Runway 18R-36L Extension

The extension of Runway 18L-36R to 4,000 feet is expected to significantly increase use of this runway. Piston aircraft are expected to shift from the main runway (Runway 18R-36L) to this parallel runway for both training, and regular arrivals and departures.

It is anticipated that a substantial share of IASCO/JAL training will shift from the main runway to this parallel runway. This will have benefits for both their operations and those of other aircraft. IASCO/JAL operations on this runway can be conducted with less frequent need to coordinate with the operations of other aircraft. This will increase the number of landings and takeoffs that can be conducted per hour. Shifting IASCO/JAL operations to the parallel runway will also increase the ease with which other aircraft can be accommodated on the main runway.

ILS to Runway 36L

The near-term addition of a glide slope antenna will permit the development of a precision approach to Runway 36L. This will increase the safety and utility of instrument operations at Napa

County Airport. The effect on flight tracks will be minor because this runway already has a straight-in instrument approach.

Helicopters

There are three distinct types of helicopter operations at Napa County Airport:

- Charter
- Training
- California Highway Patrol

Charter helicopter operations include both sight-seeing trips and transportation to events (e.g., NASCAR races) and other airports (Oakland International Airport). These flights typically follow one of the four flight tracks shown.

Training activities are conducted in small loops centered on the 1,000-foot touchdown stripes on either Runway 24 or Runway 18R, depending upon wind conditions. These operations do not leave the airport.

California Highway Patrol operations can come from all directions. The only common track is for arrivals from the east. These flights commonly are flown parallel to Jameson Canyon Road (Highway 12).

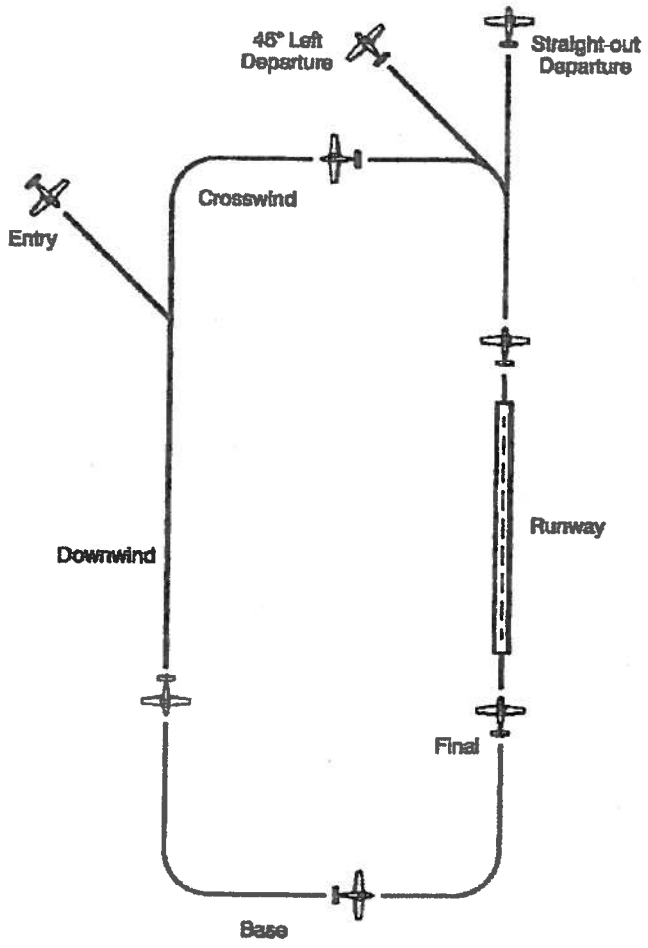
Runway 6-24

Runway 6-24 is the designated crosswind runway. It was designed to support landings and takeoffs when winds do not favor use of the runways with the 18-36 alignment. As hangars have developed on the south side of the airport, there has been a slight increase in the frequency of landing on Runway 6 and departures on Runway 24. Full development of the south side is anticipated to significantly increase requests for departures on Runway 24, and (to a lesser degree) landings on Runway 6. This pattern would reduce taxiing time to and from the south side hangar area. This will increase overflights west of the airport along the extended runway centerline.

Landings on Runway 24 are expected to remain infrequent, except when winds favor the use of this runway. Currently when the winds favor the main and parallel runways, aircraft landing on Runway 24 must land and hold short of the intersection with main runway. When the parallel runway is extended to 4,000 feet, aircraft landing on Runway 24 will then be required to land and hold short of this runway. As only about 3,200 feet will be available, this will not be an attractive option for many large aircraft.

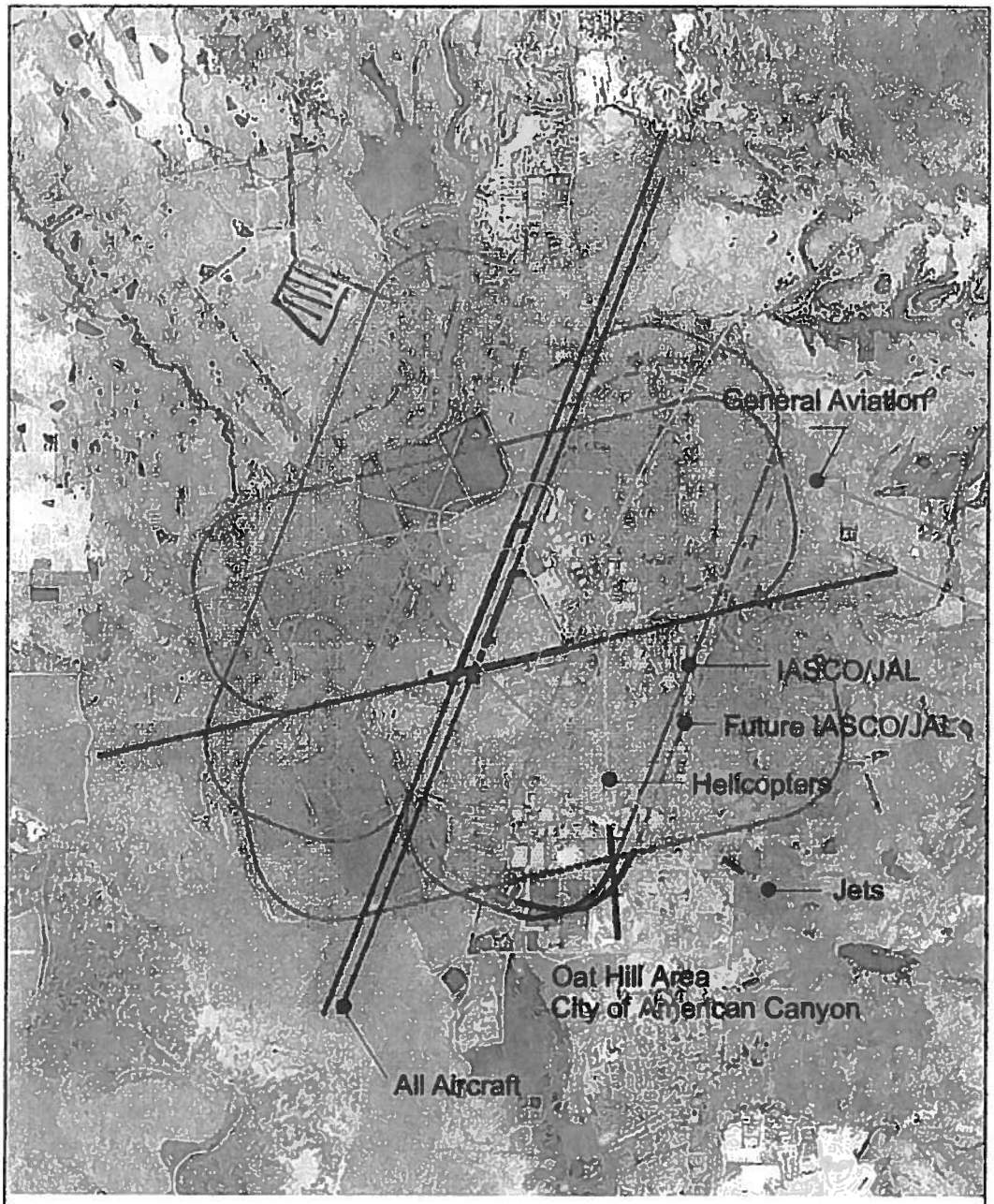
Departures on Runway 6 are also expected to remain uncommon, except when winds dictate the use of this runway. When the main and parallel runways are active, using Runway 6 would require taxiing past both active runways. Departure would require crossing both runways again. The time delays involved would be expected to remove the potential reduction in taxi distance.

Figure 1.
Flight Track Terminology



Note: Recommended standard left-hand pattern is depicted.
Recommended standard right-hand pattern would be opposite.

Source: Mead & Hunt, Inc. (July 2005)



Preliminary Flight Tracks
Napa County Airport

Figure 4.1-1

Napa County Airport Master Plan
Draft Environmental Assessment
December 2007

NORTH

Scale: 1" = 3,000'

Source: Mead & Hunt, Inc. (July 2005)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

AIRPORT MASTER RECORD

PRINT DATE: 03/22/2010
AFD EFF 02/11/2010
Form Approved OMB 2120-0015

> 1 ASSOC CITY: NAPA
> 2 AIRPORT NAME: NAPA COUNTY
3 CBD TO AIRPORT (NM): 05 S
4 STATE: CA
6 REGION/ADO: AWP/SFO
LOC ID: APC
5 COUNTY: NAPA CA
FAA SITE NR: 01933.*A
7 SECT AERO CHT: SAN FRANCISCO

GENERAL

10 OWNERSHIP: PU
> 11 OWNER: NAPA COUNTY
> 12 ADDRESS: 2030 AIRPORT RD.
NAPA, CA 94558
> 13 PHONE NR: 707-253-4300
> 14 MANAGER: MARTIN PEHL
> 15 ADDRESS: 2030 AIRPORT RD.
NAPA, CA 94558
> 16 PHONE NR: 707-253-4300
> 17 ATTENDANCE SCHEDULE
ALL ALL 0600-2100

18 AIRPORT USE: PUBLIC
19 ARPT LAT: 38-12-47.5000N ESTIMATED
20 ARPT LONG: 122-16-50.5000W
21 ARPT ELEV: 35 SURVEYED
22 ACREAGE: 820
> 23 RIGHT TRAFFIC: 36R, 18R
> 24 NON-COMM LANDING: NO
25 NPIAS/FED AGREEMENTS: NGY
> 26 FAR 139 INDEX:

SERVICES

> 70 FUEL: 100LL A
> 71 AIRFRAME RPRS: MAJOR
> 72 PWR PLANT RPRS: MAJOR
> 73 BOTTLE OXYGEN: HIGH/LOW
> 74 BULK OXYGEN: NONE
75 TSNT STORAGE: TIE
76 OTHER SERVICES:
CHTR, INSTR, RNTL, SALES

FACILITIES

> 80 ARPT BCN: CG
> 81 ARPT LGT SKED: DUSK-DAWN
> 82 UNICOM: 122.950
> 83 WIND INDICATOR: YES-L
84 SEGMENTED CIRCLE: YES
85 CONTROL TWR: YES
86 FSS: OAKLAND
87 FSS ON ARPT: NO
88 FSS PHONE NR:
89 TOLL FREE NR: 1-800-WX-BRIEF

BASED AIRCRAFT

90 SINGLE ENG:	176
91 MULTI ENG:	35
92 JET:	12
TOTAL:	223
93 HELICOPTERS:	3
94 GLIDERS:	2
95 MILITARY:	0
96 ULTRA-LIGHT:	0

OPERATIONS

100 AIR CARRIER:	0
102 AIR TAXI:	4,374
103 G A LOCAL:	55,897
104 G A ITNRNT:	58,804
105 MILITARY:	532
TOTAL:	119,607
OPERATIONS FOR 12 MONTHS ENDING	12/31/2008

RUNWAY DATA

		06/24	18L/36R	18R/36L	
> 30 RUNWAY IDENT:					
> 31 LENGTH:		5,007	2,510	5,931	
> 32 WIDTH:		150	75	150	
> 33 SURF TYPE-COND:		CONC-F	ASPH-F	CONC-F	
> 34 SURF TREATMENT:					
35 GROSS WT:	SW	30.0	12.5	30.0	
36 (IN THSDS)	DW	50.0		50.0	
37	DTW	120.0		120.0	
38	DDTW				
> 39 PCN:					

LIGHTING/APCH AIDS

> 40 EDGE INTENSITY:	MED		MED	
> 42 RWY MARK TYPE-COND:	NPI - F / NPI - F	BSC - F / BSC - F	NPI - F / NPI - F	- / -
> 43 VGSI:	/	/	P4L /	/
44 THR CROSSING HGT:	/	/	52 /	/
45 VISUAL GLIDE ANGLE:	/	/	3.25 /	/
> 46 CNTRLN-TDZ:	N - N / N - N	- N / - N	N - N / N - N	- / -
> 47 RVR-RVV:	- N / - N	- N / - N	- N / - N	- / -
> 48 REIL:	Y / N	N / N	N / N	/
> 49 APCH LIGHTS:	/	/	/ MALS	/

OBSTRUCTION DATA

50 FAR 77 CATEGORY:	C / B(V)	A(V) / A(V)	B(V) / D	/
> 51 DISPLACED THR:	/	/	/	/
> 52 CTLG OBSTN:	/ TREE	/	/ TREE	/
> 53 OBSTN MARKED/LGTD:	/	/	/	/
> 54 HGT ABOVE RWY END:	/ 100	/	/ 76	/
> 55 DIST FROM RWY END:	/ 2,410	/	/ 3,100	/
> 56 CNTRLN OFFSET:	/ 100L	/	/ 200R	/
57 OBSTN CLNC SLOPE:	50:1 / 22:1	50:1 / 50:1	50:1 / 38:1	/
58 CLOSE-IN OBSTN:	N / Y	N / N	N / N	/

DECLARED DISTANCES

> 60 TAKE OFF RUN AVBL (TORA)	/	/	/	/
> 61 TAKE OFF DIST AVBL (TODA)	/	/	/	/
> 62 ACLT STOP DIST AVBL (ASDA)	/	/	/	/
> 63 LNDG DIST AVBL (LDA)	/	/	/	/

(>) ARPT MGR PLEASE ADVISE FSS IN ITEM 86 WHEN CHANGES OCCUR TO ITEMS PRECEDED BY >

> 110 REMARKS

A 058 RWY 24 SHALLOW DITCH 115 FT FM APCH END RY 24.
A 070 FOR FUEL SVC 2100-0600 CALL 707-224-0887.
A 081 WHEN ATCT CLSD ACTVT MIRL RYS 18R/36L & RY 06/24, REIL RY 06, PAPI RY 18R & MALS RY 36L - CTAF.
A 110-1 ASPH TWYS STRENGTH 30,000 GWT SINGLE WHEEL.
A 110-2 ASPH APRONS STRENGTH 12500-30000 LBS GWT SINGLE WHEEL.
A 110-3 FLOCKS OF GULLS AND NUMEROUS BIRDS ON RWYS AND IN VICINITY OF ARPT DURING THE MONTHS OF OCT THRU APR AND DURING RAINY WEATHER.
A 110-7 UNLGTD BRIDGE 1 NM S, 167 FT AGL

111 INSPECTOR: (S) 112 LAST INSP: 01/21/2004 113 LAST INFO REQ:

	Current	Projected 2021	
	2001	Low	High
BASED AIRCRAFT			
Aircraft Types			
Single-Engine	183	230	260
Twin-Engine	19	20	24
Turboprop	13	22	30
Jets	7	12	20
Helicopters	2	6	6
Total Aircraft	224	290	340
Storage Demand			
Apron	87		
Hangar Space (includes shade hangars)	137	270	320
Total Aircraft	224	290	340
TRANSIENT AIRCRAFT			
Peak Parking Demand	27	44	44
ANNUAL AIRCRAFT OPERATIONS			
Aircraft Mix			
Single-Engine Piston	86,040	137,500	175,000
Twin-Engine Piston	15,640	21,000	33,500
Twin-Engine Turboprop	13,140	27,000	27,000
Small Jet (e.g., Citation)	5,630	12,500	12,500
Medium Jet (e.g., Falcon 900)	1,250	4,500	4,500
Large Jet (e.g., Gulfstream)	1,880	3,500	3,500
Helicopters	2,500	4,000	4,000
Total	126,080	210,000	260,000
Type of Operation			
Local (Touch-and-Go's)	65,080	110,000	160,000
Itinerant	61,000	100,000	100,000
Total	126,080	210,000	260,000
Average Operations per Based Aircraft			
Total	563	724	765

Source: Data compiled by Mead & Hunt, Inc. (May 2002)

Table 2A

Master Plan Activity Forecasts
Napa County Airport

Noise Model Calculation Data

Napa County Airport

AIRCRAFT MIX (Estimated 2001 Activity Level)			
Aircraft Type	*Total Operations*		
	Annual	*Average Day*	*Percentage*
Single-Engine, Propeller, Fixed Pitch	54,000	147.95	42.83%
Single-Engine, Propeller, Variable Pitch	32,040	87.78	25.41%
Twin-Engine, Propeller, Piston	15,640	42.85	12.40%
Twin-Engine, Turboprop	13,140	36.00	10.42%
Small Business Jet (e.g., Citation)	5,630	15.42	4.47%
Medium Business Jet (e.g., Falcon 900)	1,250	3.42	1.00%
Large Business Jet (e.g., Gulfstream)	1,880	5.15	1.49%
Helicopter	2,500	6.85	1.98%
Total	126,080	345.42	100.00%

AIRCRAFT MIX (Forecast 2021 Activity Level)			
Aircraft Type	*Total Operations*		
	Annual	*Average Day*	*Percentage*
Single-Engine, Propeller, Fixed Pitch	97,000	265.75	37.31%
Single-Engine, Propeller, Variable Pitch	78,000	213.7	30.00%
Twin-Engine, Propeller, Piston	33,500	91.78	12.88%
Twin-Engine, Turboprop	27,000	73.97	10.38%
Small Business Jet (e.g., Citation)	12,500	34.25	4.81%
Medium Business Jet (e.g., Falcon 900)	4,500	12.33	1.73%
Large Business Jet (e.g., Gulfstream)	3,500	9.59	1.35%
Helicopter	4,000	10.96	1.54%
Total	260,000	712.33	100.00%

TIME OF DAY
(Estimated 2001 and 2021)

Aircraft Type		*Percentage of Operations by Aircraft Type*		
		Day 7:00 a.m. 7:00 p.m.	*Evening 7:00 p.m. 10:00 p.m.*	*Night 10:00 p.m. 7:00 a.m.*
Single-Engine, Propeller, Fixed Pitch	Takeoff Landing	95.0% 95.0%	4.0% 4.0%	1.0% 1.0%
Single-Engine, Propeller, Variable Pitch	Takeoff Landing	95.0% 95.0%	4.0% 4.0%	1.0% 1.0%
Twin-Engine, Propeller, Piston	Takeoff Landing	97.0% 97.0%	2.0% 2.0%	1.0% 1.0%
Twin-Engine, Turboprop	Takeoff Landing	97.0% 97.0%	2.0% 2.0%	1.0% 1.0%
All Business Jets	Takeoff Landing	99.0% 99.0%	1.0% 1.0%	—
Helicopter	Takeoff Landing	75.0% 75.0%	16.0% 16.0%	9.0% 9.0%

RUNWAY UTILIZATION
(Estimated 2001 and 2021)

Aircraft Type		*Percentage of Takeoffs and Landings*						
		Runway 18R	*Runway 36L*	*Runway 18L*	*Runway 36R*	*Runway 6*	*Runway 24*	Helipad
Single-Engine, Propeller, Fixed and Variable Pitch	Day Evening Night	60.0 60.0 60.0	2.5 2.5 2.5	20.0 20.0 20.0	0.5 0.5 0.5	2.0 2.0 2.0	15.0 15.0 15.0	–
Twin-Engine, Propeller, Piston	Day Evening Night	60.0 60.0 60.0	2.5 2.5 2.5	20.0 20.0 20.0	0.5 0.5 0.5	20.0 20.0 20.0	15.0 15.0 15.0	–
Twin-Engine, Turboprop	Day Evening Night	75.0 75.0 75.0	5.0 5.0 5.0	–	–	5.0 5.0 5.0	15.0 15.0 15.0	–
All Business Jets	Day Evening Night	75.0 75.0 75.0	5.0 5.0 5.0	–	–	5.0 5.0 5.0	15.0 15.0 15.0	–
Helicopter	Day Evening Night	–	–	–	–	–	–	100.0 100.0 100.0

FLIGHT TRACKS – TAKEOFFS
(Estimated 2001 and 2021)

Aircraft Type	Percentage of Track Usage by Runway															
	Runway 18R			Runway 36L		Runway 18L			Runway 36R	Runway 6			Runway 24			Helipad
	Straight Out	45° Right Turn	45° Left Turn	Straight Out	45° Left Turn	Straight Out	45° Right Turn	45° Left Turn	Straight Out	Straight Out	45° Right Turn	45° Left Turn	Straight Out	45° Right Turn	45° Left Turn	Straight Out
Single-Engine, Propeller, Fixed and Variable Pitch	50.0	30.0	20.0	20.0	80.0	50.0	30.0	20.0	100.0	70.0	15.0	15.0	40.0	20.0	40.0	–
Twin-Engine, Propeller, Piston	50.0	30.0	20.0	20.0	80.0	50.0	30.0	20.0	100.0	70.0	15.0	15.0	40.0	20.0	40.0	–
Twin-Engine, Turboprop	20.0	60.0	20.0	30.0	70.0	20.0	60.0	20.0	100.0	70.0	15.0	15.0	40.0	20.0	40.0	–
All Business Jets	100.0	–	–	100.0	–	–	–	–	–	100.0	–	–	100.0	–	–	–
Helicopters	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	100.0

FLIGHT TRACKS – LANDINGS
(Estimated 2001 and 2021)

Aircraft Type	Percentage of Track Usage by Runway											
	Runway 18R			Runway 36L	Runway 18L		Runway 36R	Runway 6	Runway 24			Helipad
	Straight In	Close-in Right Turn	Right Turn	Straight In	Straight In	Left Turn	Straight In	Straight In	Straight In	Close-in Right Turn	Right Turn	Straight In
Single-Engine, Propeller, Fixed and Variable Pitch	20.0	40.0	40.0	100.0	20.0	80.0	100.0	100.0	20.0	40.0	40.0	–
Twin-Engine, Propeller, Piston	10.0	50.0	40.0	100.0	20.0	80.0	100.0	100.0	10.0	50.0	40.0	–
Twin-Engine, Turboprop	20.0	20.0	60.0	100.0	–	–	–	100.0	20.0	20.0	60.0	–
All Business Jets	100.0	–	–	100.0	–	–	–	100.0	100.0	–	–	–
Helicopter	–	–	–	–	–	–	–	–	–	–	–	100.0

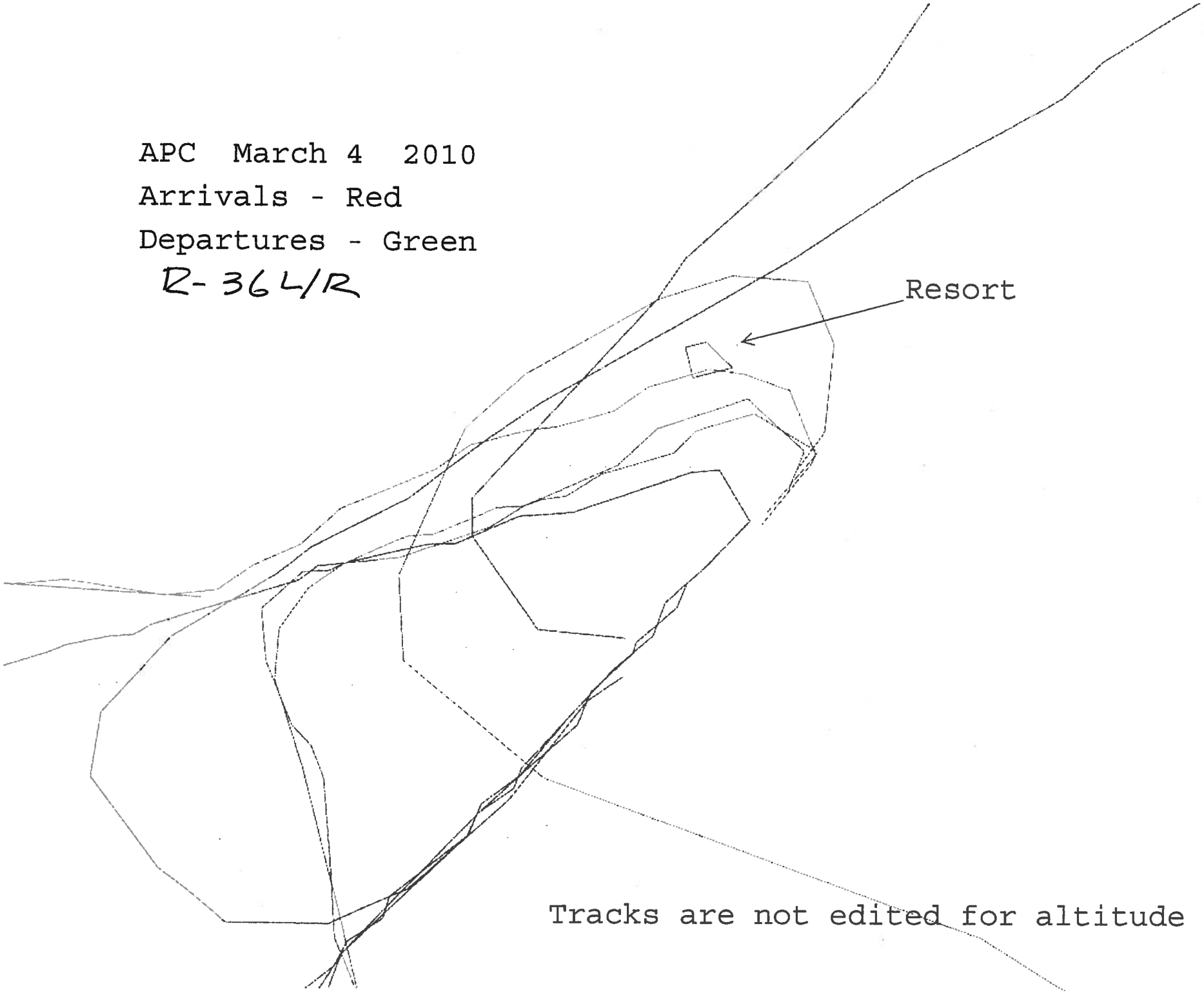
Source: Data compiled by Mead & Hunt (July 2003)

APC March 4 2010

Arrivals - Red

Departures - Green

R-36L/R



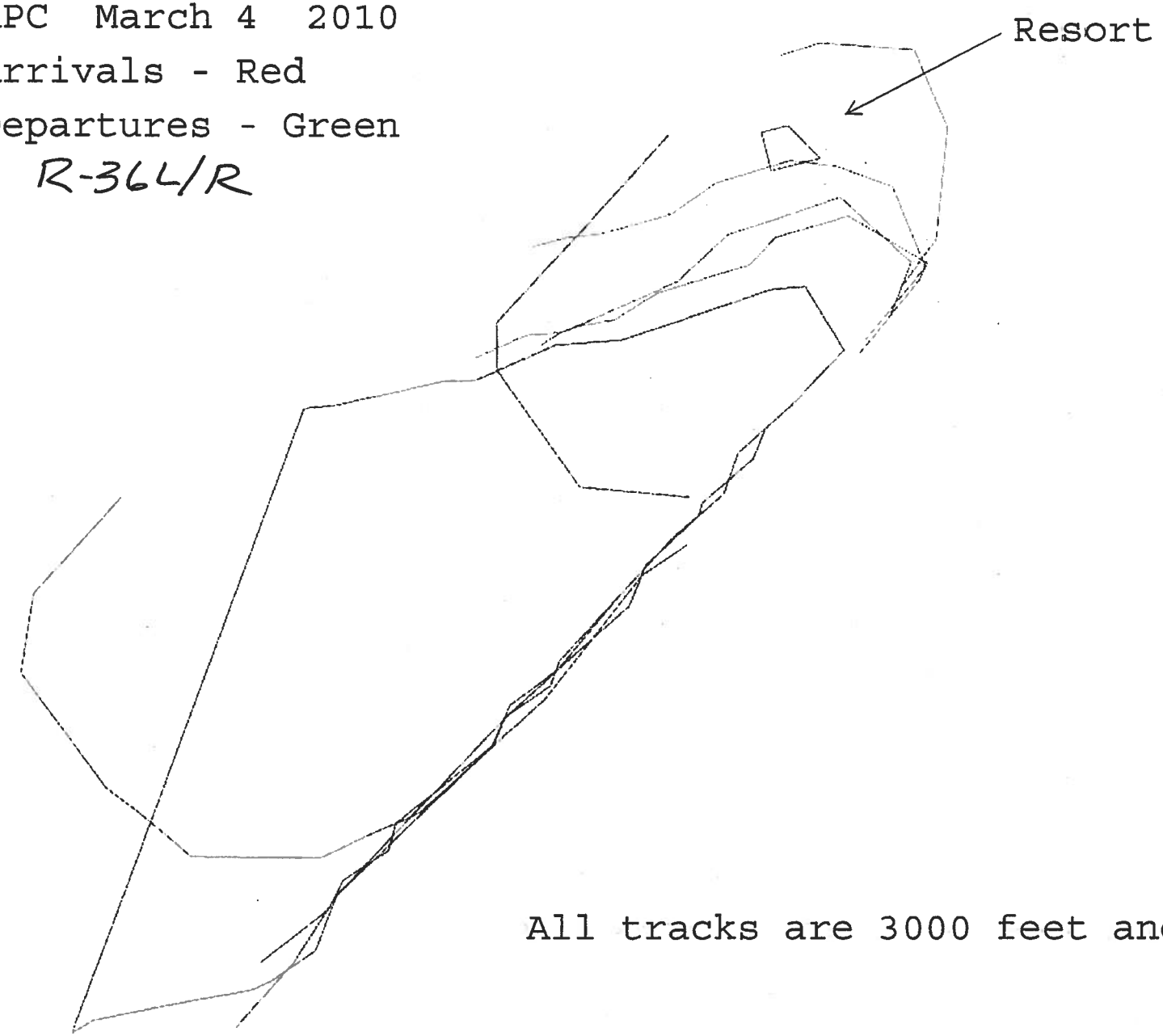
Tracks are not edited for altitude

APC March 4 2010

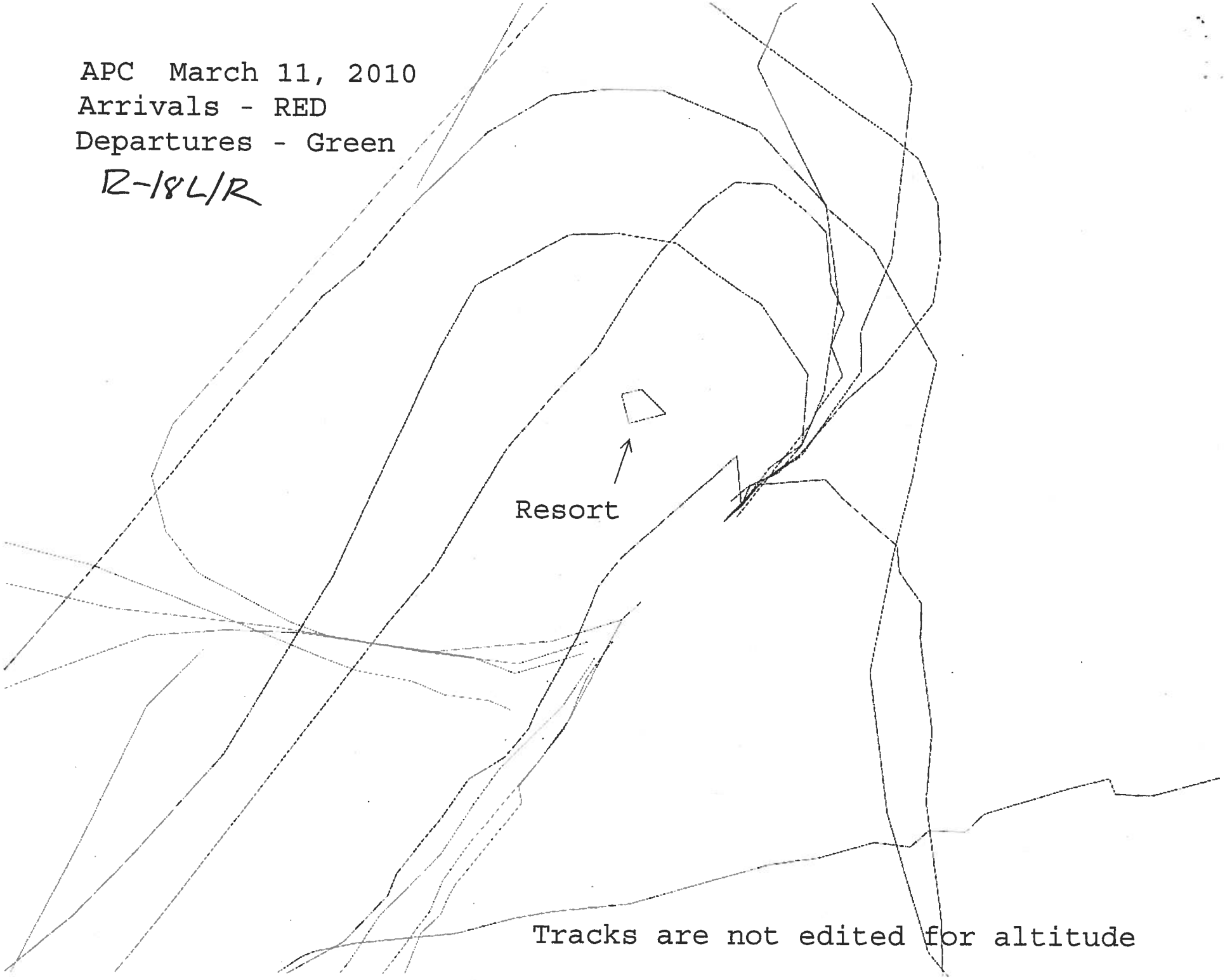
Arrivals - Red

Departures - Green

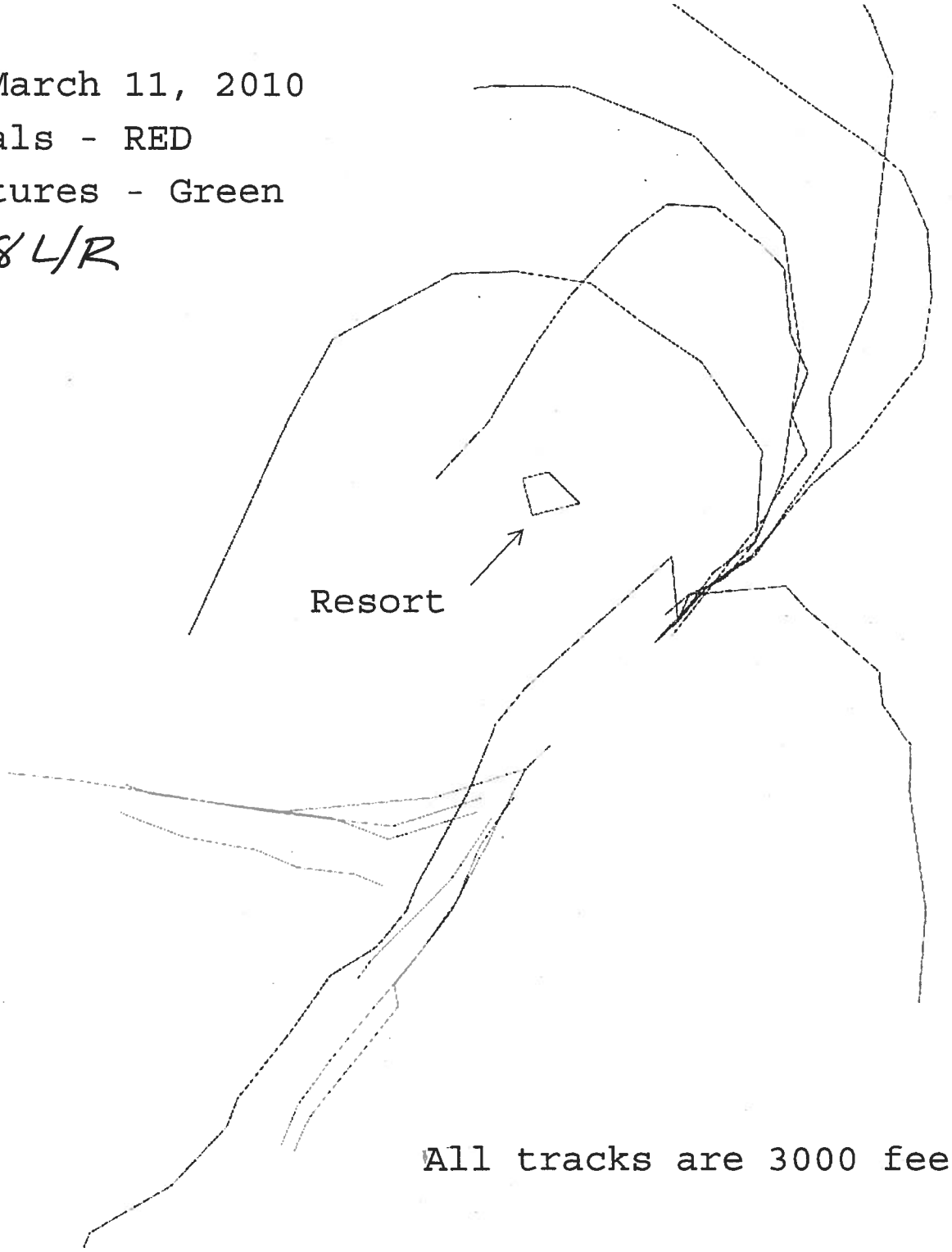
R-36L/R



All tracks are 3000 feet and below


APC March 11, 2010
Arrivals - RED
Departures - Green
R-18L/R
Resort
Tracks are not edited for altitude

APC March 11, 2010
Arrivals - RED
Departures - Green
R-18L/R



All tracks are 3000 feet and below