

NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

SURVIVAL FACTORS / OPERATIONS

WPR11MA454

Attachment 3 – FAA Waiver – 2011 National Championship Air Races

(26 Pages)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

CERTIFICATE OF WAIVER OR AUTHORIZATION

ISSUED TO

Reno Air Race Association
Michael Houghton, CEO and William B. Eck, Director of Operations

ADDRESS

14501 MT. ANDERSON
RENO, NV 89506

(775) 972-6663

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

AEROBATIC DEMONSTRATIONS AND CLOSED COURSE PYLON RACING IN PERFORMANCE OF THE RENO AIR RACE/SHOW WITHIN A THREE BY FOUR MILE RECTANGLE WITH THE SOUTH 3 MILE SIDE CENTERED ON AND CONTIGUOUS WITH A LINE PARALLEL TO AND 250 FEET NORTH OF THE NORTH EDGE OF THE MAIN RAMP OF THE RENO/STEAD AIRPORT (RTS), EXCLUDING THE AIRSPACE ABOVE THE SPECTATORS AND CONGESTED AREAS (SEE ATTACHMENT #1). MILITARY DEMONSTRATION AIRCRAFT ARE AUTHORIZED TO OPERATE FROM SURFACE UP TO 18,000 FEET MSL PROVIDED COORDINATION IS IN EFFECT WITH ATC. ALL OTHERS ARE AUTHORIZED TO OPERATE FROM SURFACE UP TO 14,500 FEET MSL. AIRCRAFT SPEED IN EXCESS OF 250 KNOTS WITHIN A 5 MILE RADIUS OF HOME PYLON FOR MILITARY AND RACING AIRCRAFT IS AUTHORIZED. HOURS OF OPERATION ARE 0800 (PDT) UNTIL 1700 (PDT) ON SUNDAY, SEPTEMBER 11, 2011, THRU SUNDAY, SEPTEMBER 18, 2011.

LIST OF WAIVED REGULATIONS BY SECTION AND TITLE

SEE ATTACHMENT #2

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 Administration, 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. 1 to 56 inclusive, are set forth on the reverse side hereof. "See Attached"

This certificate is effective from 09/11/2011 0800 PDT to 09/18/2011 1700 PDT, inclusive, and is subject to cancellation at any time upon notice by the Administrator or his authorized representative.


BY DIRECTION OF THE ADMINISTRATOR

Western Pacific

(Region)

September 02 2011

(Date)


Manager, Reno Flight Standards
District Office

(Title)

RENO AIR RACING ASSOCIATION, INC.
NATIONAL CHAMPIONSHIP AIR RACES
SEPTEMBER 11TH, 2011 THRU SEPTEMBER 18TH, 2011

SPECIAL PROVISIONS

1. Mr. Bill Eck, Director of Operations (DOO), shall retain sole responsibility for safeguarding persons and property on the surface and shall inform the Reno Flight Standards District Office (FSDO) in writing of any person(s) to whom the authority is delegated.
2. Mr. Bill Eck, DOO, has been determined to be competent and knowledgeable concerning the terms and provisions of this Certificate of Waiver and understands this aviation event is monitored by the Federal Aviation Administration (FAA). Mr. Bill Eck, DOO, will be responsible to the FAA for the compliance with this Certificate of Waiver and Special Provisions.
3. Mr. Bill Eck, DOO, must ensure that participants are thoroughly briefed on special field rules, manner and order of events, and are available for briefing on the provisions of the waiver before beginning the activities. No person may participate in any event listed on the waiver unless that person has signed a statement stating that they have received a briefing on the provisions of the waiver. Teams may be represented by a participating performer of that team.
4. Mr. Bill Eck, DOO, shall notify Lockheed Martin Flight Service Station (AFSS) at 1-877-487-6867 of the date, time, place, areas, altitudes, nature of the activity, and duration of the operation and request that a NOTAM be issued. Such notice shall be accomplished by providing the controlling AFSS with a copy of the Certificate of Authorization at least 48 hours before the event and no more than 72 hours before the event.
5. All civil aircraft and pilots participating in the demonstration shall be available for FAA inspection at time and place agreed upon by Mr. Eck, DOO, and the FAA IIC.
6. For civil aircraft, only required flight crewmembers by type design, safety pilots as listed in FAA Order 8900.1, Volume 3, Chapter 6, or those persons required to participate in the demonstration (wing walkers, stunt persons, actors integral to the performance, and those conducting safety related functions) will be carried on any aircraft engaged in demonstrations authorized by this waiver.
7. The FAA has the authority to cancel or delay any or all acts or events if the safety of persons or property on the ground or in the air is in jeopardy, or there is a violation of the terms of the waiver.

8. Persons or aircraft not appearing on the waiver or authorization application and subsequently added to the Certificate of Waiver may not participate without the specific approval by Mr. Bill Eck, DOO, and the FAA. Mr. Bill Eck, DOO, will notify the FAA IIC by the most expeditious means of any change made.
9. All civil pilots who perform aerobatics must possess:
 - a. A valid FAA Form 8710-7, Statement of Acrobatic Competency, or Transport Canada Aviation (TCA), Form 26-0307, Statement of Aerobatic Competency. All limitations on the form will be adhered to including altitude restriction for the entire performance.
 - b. Performers that execute maneuvers more 75 degrees of bank but no more than 90 degrees and/or pitch attitudes more than 60 degrees but no more that 90 degrees of bank only require a logbook endorsement or competency letter from a qualified evaluator.
 - c. Documentation of performing or practicing their performance(s) within the previous 15 days.
10. Civilian flying performers who *do not* hold a FAA Form 8710-7 or Canada's TCA form 26-0307, Statement of Acrobatic Competency with a Level 1 altitude authorization may conduct non-aerobatic fly-bys:
 - a. No closer than the 500 feet show line.
 - b. Ingress/egress shall be no closer than 500 feet laterally to the ends of the primary spectator area.
 - c. No lower than 100 feet AGL when operating a jet or turbojet airplane within 1,000 feet of a designated spectator area unless the pilot is in possession of a current Surface Level 1 Statement of Aerobatic Competency for that airplane.
11. Pilots who wish to conduct non-aerobatic formation flight in waived airspace must possess a valid industry formation training and evaluation credential acceptable to the FAA.
12. For the purpose of this event the definition of aerobatic flight contained in 14 CFR § 91.303 is waived.
13. The following aircraft attitudes will be considered aerobatic flight:
 - a. For all solo aircraft: when the pitch angle exceeds a positive or negative 60° angle from the horizon, and/or when the bank angle exceeds 75°.
 - b. For formation flights: when pitch angle exceeds a positive or negative 45° angle from the horizon, and/or when the bank diverges from level flight in excess of 60°.

14. Repositioning Turns.
 - a. All military pilots and civilian holders of a statement of aerobatic competency card are permitted to perform repositioning turns using a maximum of 120 degrees of bank and 90 degrees of pitch when above 500 feet AGL and not over designated spectator areas or congested areas.
 - b. Holders of an endorsement for pitch and bank angles up to 90 degrees are permitted to perform repositioning turns to those limits above 500 feet AGL when not over designated spectator areas or congested areas.
15. A control point shall be established where the certificate holder or representative shall direct the demonstration. This person shall be continuously available to the FAA and is the person designated as responsible for the overall safety of the event.
16. A military showline (CAT I) and show lines (CAT II and III) (depicted as reference lines on Attachment 4) clearly visible to the performers/pilots shall be provided to assist them in compliance with the approved distances from the spectator area(s). The military showline (CAT I) and reference lines (CAT II and III) will include a clearly visible show center marker and corner markers that are 500 feet beyond the spectator areas along the crowd line to provide reference to pilots entering or leaving the flying display area.
17. Except when authorized during takeoff or landing, aircraft that operate at speeds of 156 knots or less, and certain other Category III aircraft shall perform no closer than 500 feet horizontally from the spectator area(s). The show lines for these aircraft are defined on attachment #4. Any single reciprocating-engine airplane with a maximum certificated gross weight of no more than 2,250 lbs. is also a Category III aircraft. This category aircraft shall fly the south edge of runway 8/26. (CATEGORY III)

NOTE: The dimensions of aerobatic area for Category III aircraft may vary. It only needs to be large enough to provide sufficient space for Cat III performers to complete their aerobatic maneuvers within it. The only requirement that may not be altered is that the minimum distance from each side of this aerobatic area to the primary and secondary spectator areas respectively may not be less than 500 feet at any time.

18. Except when authorized during takeoff or landing, aircraft that operate at speeds of more than 156 knots, but 245 knots or less, shall perform aerobatic maneuvers no closer than 1,000 feet horizontally from a single spectator area. If two spectator areas are used, the showline may be no less than 800 feet from one spectator area and no less than 1,000 feet from the other designated spectator area. The show lines for these aircraft are defined on attachment #4. This category aircraft shall fly north of the runway 8/26 centerline. (CATEGORY II TO INCLUDE AEROBATIC HELICOPTERS)

NOTE: The dimensions of aerobatic area may vary. It only needs to be large enough to provide sufficient space for Cat II performers to complete their aerobatic maneuvers within it. The only requirement that may not be altered is that the minimum distance from each side of the aerobatic area to the primary and secondary spectator areas respectively may not be less than 1000 feet. The distance may be reduced only on one side only of the Cat II aerobatic area to no less than 800 feet from either the primary or secondary spectator areas in accordance with the guidance provided in FAA Order 8900.1, Volume 3, Chapter 6, Table 3-1.

19. Except when authorized during takeoff or landing, aircraft that operate at speeds of more than 245 knots shall perform aerobatic maneuvers no closer than 1,500 feet horizontally from a single spectator area. If two spectator areas are used, the showline may be no less than 1,200 feet from one of the designated spectator areas, and no less than 1,500 feet from the other designated spectator area. Single CAT I airplanes or the center of formation flights of CAT I airplanes must be centered on this showline. The show line for these aircraft is defined on attachment #1.

NOTE: For reciprocating engine powered airplanes; these distances are predicated on aircraft speed in straight and level flight, at 75 percent power, at standard temperature and pressure (15 degrees C/sea level), and maximum certificated gross weight. For turbine engine powered airplanes, the distances are based on 85 percent of the maximum continuous powered straight and level flight, true airspeed at standard temperature, pressure, and maximum certificated gross weight. Any turbine engine powered airplane for which valid performance data acceptable to the FAA is not available will be required to perform on or beyond the Category I showline.

20. Non-aerobatic flight may be no closer than 500 feet horizontally from the spectator area for all aircraft.
21. Supersonic and/or trans-sonic speeds are prohibited.
22. Adequate communication capability (electronic and visual) must be provided to maintain a safe operation, to control spectators, and to advise participants that the aerial demonstration has been halted or canceled.
23. A crowd line consisting of a physical barrier and/or adequate policing shall be provided to confine the spectators to designated areas. The spectator areas shall have well defined lateral boundaries.
24. The demonstration shall be halted for any reason that is in the interest of safety. It shall also be halted when unauthorized aircraft enter the air show/air race operations area, and/or when unauthorized persons or vehicles enter the area underlying the aerobatic maneuvering area or air racing flight operations area.

25. Only the minimum number of authorized essential personnel necessary to support operations will be authorized in the operating areas. Mr. Bill Eck, DOO, assumes responsibility for persons who enter the operations area.
26. Aircraft engines shall not be started and aircraft shall not be taxied in designated spectator areas or static display areas. Areas where engines and propellers will be turning must be at least 100 feet from the spectator area and areas where rotors are turning must be at least 200 feet from the spectator area. Areas where engines and propellers are turning that are protected by a physical barrier or guarded by wing – walkers, marshalls, and crowd control monitors that will prevent entry by unauthorized personnel, must be at least 50 feet from the spectator area.
27. Flight demonstrations shall not be conducted unless the ceiling is at least 2,500 feet, and the visibility is at least 5 statute miles at the time of the demonstration.

NOTE: The DISTANCE FROM CLOUD REQUIREMENTS OF 14 CFR PART § 91.155 IS NOT WAIVED.

28. Aircraft maneuvers may not direct energy toward any spectator area. Certain related maneuvers and procedures, however, may be authorized as outlined below.
 - a. Non-aerobatic maneuvers where the aircraft is pointed at the primary spectator area are permitted as long as the aircraft is beyond the appropriate reference line for category (i.e. 500 feet for CAT III; 1,000 feet for CAT II and 1,200 to 1,500 for CAT I) without energy towards the crowd considerations.
 - b. Aerobatic maneuver conducted inside the aerobatic box that in the event of a catastrophic failure a part of the aircraft would contact the surface at or inside the primary spectator area between the corner markers are prohibited.
 - c. Aerobatic maneuvers that do not fit the description in (a) and (b) above require AFS-800 approval.
 - d. Maneuvers on an oblique line that passes 500, 1,000, or 1,500 feet to either side of a spectator area as appropriate to the category of aircraft being flown during oblique aerobatic maneuvers.
29. For the U.S. Air Force Thunderbirds, approved maneuvers may include level of climbing (normal rate) non-aerobatic flight over any spectator no less than 500 feet above the highest point in the primary spectator areas. All other performers must be at or above 1,000 feet above the highest point in the primary spectator areas.

30. Any maneuver or speed approved by AFS-800 in the FAA approved maneuvers package or FAA accepted military order are permitted if performed as approved and are exceptions to FAA Order 8900.1, Volume 3, Chapter 6. However, for the North American sanctioned military jet teams, flight below 500 feet AGL over occupied buildings is permitted in the transition areas depicted in their maneuvers package. Low altitude ingress and egress routes below 500 feet AGL other than the transition area require FAA IIC approval.
31. An arrival demonstration is not authorized unless an advance member of the demonstration team has been briefed on the showline and pertinent special provisions of the waiver. This information must be relayed to the team leader before the arrival demonstration.
32. The following facilities shall be provided and readily available at the demonstration site.
- | | | |
|-----------|-------------|--------------------------|
| PHYSICIAN | FIRE TRUCKS | HELICOPTER AND CIVIL |
| AMBULANCE | CRASH WAGON | DEFENSE DISASTER CONTROL |
33. Mr. Bill Eck, DOO, will ensure that roads and buildings under the specified aerobatic maneuvering area are devoid of vehicular and pedestrian traffic and/or persons.
34. Spectator areas may not be closer than 500 feet from any takeoff and landing runway when the approach speed (Vref) of any aircraft exceeds 100 knots, and/or for any aircraft that has a certificated gross weight of more than 50,000 lbs. Aircraft with both an approach speed (Vref) of 100 knots or less, and a certificated gross weight of 50,000 lbs. or less, shall be required to use a runway that is at least 300 feet from the spectator area.
35. Aircraft equipped with operable ejection seats or jettisonable tanks must be identified as such to the event sponsor and on-site crash rescue services.
36. Except for takeoff and landing, no aircraft are permitted to operate below 1,000 feet over housing areas adjacent to the airport, with particular attention given to the housing area adjacent to the west airport boundary.
37. For the purpose of release by ATC, Race Control shall contact Northern California TRACON via the hot line at least 30 minutes prior to the utilization of airspace above 14,000 feet MSL by military demonstration flights.
38. In the event that a performance involves aircraft operating in the vicinity of parachutists, whether in free-fall or under deployed canopies, all pilots and the jump master or team leader of the parachutists involved shall be present at the air show briefing. The air boss or responsible person shall ensure that each participant understands the details of the performance which shall include, at the minimum, the following information.
- a. The number of jumpers performing,
 - b. The type of and/or colors of parachutes,

- c. The exit altitude and deployment altitude,
 - d. The planned flight path prior to exit, as well as, the descent area of the jump aircraft,
 - e. The number, make(s)/model(s) and color of the aircraft involved, and
 - f. Procedures to be used in the event of an unexpected occurrence.
39. Upon request of the FAA, civil aircraft pilots must show evidence of performing or practicing their performance(s) within the previous 15 days.

Helicopter

40. Helicopters may perform aerobatic maneuvers no closer than 1,000 feet horizontally from a spectator area. Helicopter aerobatic pilots may perform only those maneuvers listed on their aerobatic competency card (FAA Form 8710-7). These maneuvers include a 90-degree pitch down, a split "S", a loop, and a barrel roll. Civil performers proposing to use these maneuvers in an air show must produce appropriate written authorization by AFS-800.
41. Helicopters performing aerobatic maneuvers shall have a valid and current special airworthiness certificate issued in the Experimental Category for the purpose of Exhibition. Aerobatic maneuvers must be listed in accordance with operating limitations. The helicopter shall not be operated contrary to any operating or special limitation issued as a part of that special airworthiness certificate.
42. Helicopters may perform non-aerobatic agility maneuvers no closer than 500 feet horizontally from a spectator area. These maneuvers include abrupt pedal turns, sideward and rearward flight maneuvers, out-of-ground effect hovering, continued operation in the avoid area of the height velocity diagram, and turns not exceeding 90 degrees of bank. All helicopter performances must terminate no closer than 500 feet from the spectator area. Gentle non-abrupt hovering maneuvers close to the ground must be performed beyond 200 feet from the spectator areas.

AIR RACE PARTICIPANTS

43. The race courses are depicted and described on attachment #3 of this Certificate of Waiver, and has been approved by AFS-800.
44. All race pilots must have a current race pilot certificate for the class in which they are racing issued by an organization authorized by the FAA to issue air race pilot certificates in that class.
45. Racing flight operations are not authorized when the reported (or observed) flight visibility is less than 6 miles. Race maneuvers shall be conducted at least 2,500 feet below the ceiling. The FAA IIC may authorize deviations from this provision.
46. In the event of an accident considered to be the result of a course deficiency or racing procedures, flight operations will be canceled until the deficiency has been corrected by the person designated responsible for the overall safety of the event, and the correction accepted by the FAA IIC.
47. All flights conducted less than 1,000 AGL shall be conducted north of the showline located on the south edge of runway 8/26 (CAT III Reference Line) and within 1,000 feet horizontally of the depicted course.
48. The pilot of any race aircraft operating outside of the course, as described in provision 43 above, shall be immediately disqualified by the certificate holder and directed to vacate the racecourse.
49. Maneuvers such as steep turns in air racing are not considered aerobatic flight.
50. Racing flight operations may be no closer than 500 feet horizontally from the primary spectator areas for all aircraft.
51. Only the minimum number of authorized essential persons necessary to support the operations will be authorized in the operating areas. Mr. Bill Eck, DOO, the holder of Certificate of Waiver or Authorization assumes responsibility for persons who enter the operations area.
52. Northern California TRACON shall be notified five minutes prior to departure of any race class using the unlimited racecourse start procedure.
53. Mr. Bill Eck, DOO, shall ensure that roads and buildings under the specified racing flight operations area are devoid of vehicular and pedestrian traffic and/or persons.

GENERAL

54. Mr. Bill Eck, DOO, shall control and accepts full responsibility for allowing and escorting designated press representatives to and from pylon areas. Only designated press representatives displaying a press pass may be authorized access to any pylon. No more than 50 persons are authorized at any pylon at any time.
55. Mr. Bill Eck, DOO, shall ensure that the Reno FSDO Inspectors have free and uninterrupted access to all racecourse areas and activities. Mr. Bill Eck, DOO, shall provide appropriate racecourse identification cards indicating that this person is an FAA Inspector from the Reno FSDO.
56. The Reno Air Racing Association, (RARA), has the temporary authority, on behalf of the Federal Aviation Administration, to secure an accident site prior to the arrival of the FAA, NTSB, or Law Enforcement Authority, and at the request of the above, assist in the continued security of the site.

Failure to comply with any standard or special provisions is a violation of the terms of this Certificate of Waiver or Certificate of Authorization and justification for cancellation of this Certificate and constitutes a violation of Title 49 of the United States Code Section(s) 44711 (a)(2)(B) and/or 44711 (a)(5).

RENO AIR RACING ASSOCIATION, INC.

APPLICATION FOR CERTIFICATE OF WAIVER OR AUTHORIZATION

ATTACHMENT 1

AEROBACTIC DEMONSTRATION AREA:

CATEGORY 1 AIRCRAFT:

U.S. AIR FORCE THUNDERBIRDS, CANADIAN SNOWBIRDS, & OTHER MILITARY DEMONSTRATION GROUPS:

A TWO (2) MILE BY 2,700 FOOT BOX, ONE (1) MILE EAST & ONE (1) MILE WEST OF HOME PYLON, AND 1500 FEET SOUTH & 1200 FEET NORTH OF HOME PYLON (SHOW CENTER). THIS PLACES THE SOUTH EDGE OF THE BOX 103 FEET NORTH OF THE PIT CROWD LINE.

U. S. NAVY BLUE ANGELS:

A TWO (2) NAUTICAL MILE BY 3,220 FOOT BOX, ONE (1) NAUTICAL MILE EAST OF & ONE (1) NAUTICAL MILE WEST OF A POINT ON THE EAST EDGE OF TAXIWAY "C" 520 FEET NORTH OF HOME PYLON, THE (SHOW CENTER) FOR THE BLUES, AND 1,200 FEET NORTH OF THE BLUE'S (SHOW CENTER) & 2,020 FEET SOUTH. THIS PLACES THE SOUTH EDGE OF THE BOX 103 FEET NORTH OF THE PIT/ CROWD LINE.

AIR RACE DESIGNATED AREA:

RENO STEAD AIRPORT (RTS), WITHIN A THREE BY FOUR MILE RECTANGLE WITH THE SOUTH THREE MILE SIDE CENTERED ON AND CONTIGUOUS WITH A LINE PARALLEL TO AND 250 FEET NORTH OF THE NORTH EDGE OF THE MAIN RAMP. THE RACING BOX A 3.3 MILE WIDE FROM THE FENCE DEADLINE ON THE EAST, TO THE FENCE DEADLINE ON THE WEST, BY A 2.7 MILE DEADLINE FROM THE SOUTH EDGE OF RUNWAY 8-26 TO AN AREA 2000 FEET NORTH OF THE RACING ARC OF THE UNLIMITED CLASS.

RENO AIR RACE ASSOCIATION

2011

LIST OF WAIVED REGULATIONS
BY SECTION & TITLE

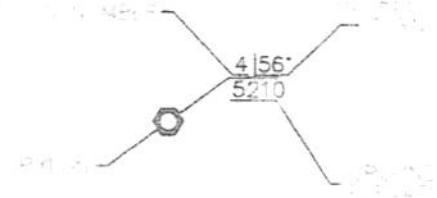
ATTACHMENT #2

FAR 91.111 (a)	OPERATION NEAR OTHER AIRCRAFT
FAR 91.117 (a)	AIRCRAFT SPEED IN EXCESS OF 250 KNOTS BELOW 10,000 FEET MSL
FAR 91.117 (b)	AIRCRAFT SPEED IN EXCESS OF 200 KNOTS IN CLASS "C" OR "D" AIRSPACE
FAR 91.119 (b)	MINIMUM SAFE ALTITUDES OVER CONGESTED AREAS
FAR 91.119 (c)	MINIMUM SAFE ALTITUDES OVER OTHER THAN CONGESTED AIRSPACE
FAR 91.121 (a)	ALTIMETER SETTING
FAR 91.127 (a)	OPERATING ON OR IN THE VICINITY OF AN AIRPORT (CLASS "E" AIRSPACE)
FAR 91.127(c)	OPERATING ON OR IN THE VICINITY OF AN AIRPORT (CLASS "E" AIRSPACE)
FAR 91.303(c)	AEROBATIC FLIGHT WITHIN THE LATERAL BOUNDARIES OF CLASS "E" AIRSPACE DESIGNATED FOR AN AIRPORT
FAR 91.303(d)	AEROBATIC FLIGHT WITHIN (4) NAUTICAL MILES OF THE CENTERLINE OF A FEDERAL AIRWAY
FAR 91.303(e)	AEROBATIC FLIGHT BELOW AN ALTITUDE OF 1,500 FEET ABOVE THE SURFACE
FAR 91.515(a)	FLIGHT ALTITUDE RULES

JET CLASS OPTIMUM RACE PATH CRITERIA = 525 MPH • 3.5-3.7 G's

LEGEND

————— JET COURSE

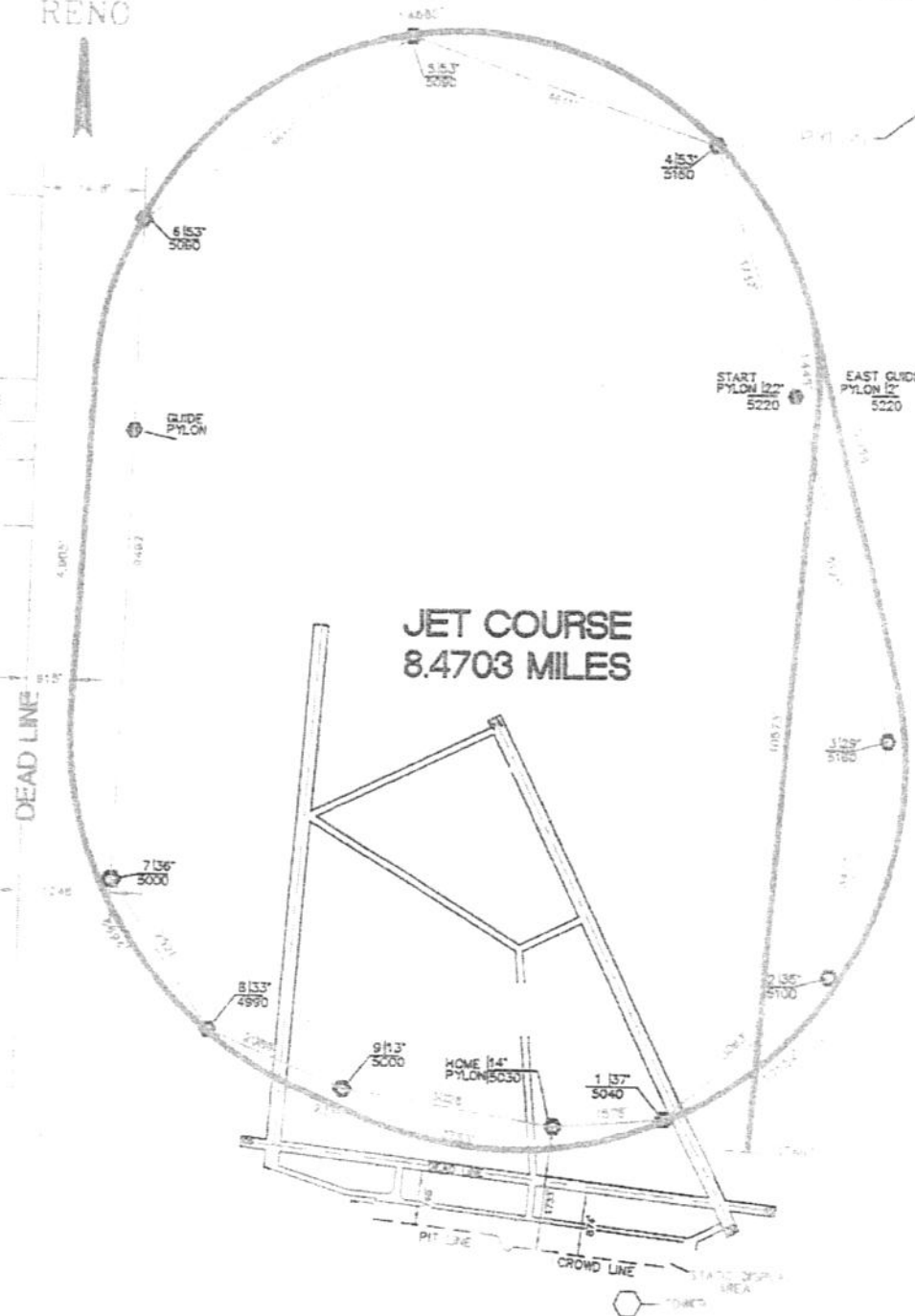


APPROVED COURSE



T.J. GRIBBIN 7/18/11

START LAP = 7.9523 MI.



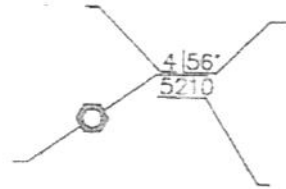
DEAD LINE

airrace 2008 jet.dwg

UNLIMITED CLASS OPTIMUM RACE PATH CRITERIA = 500 MPH @ 3.5 G's

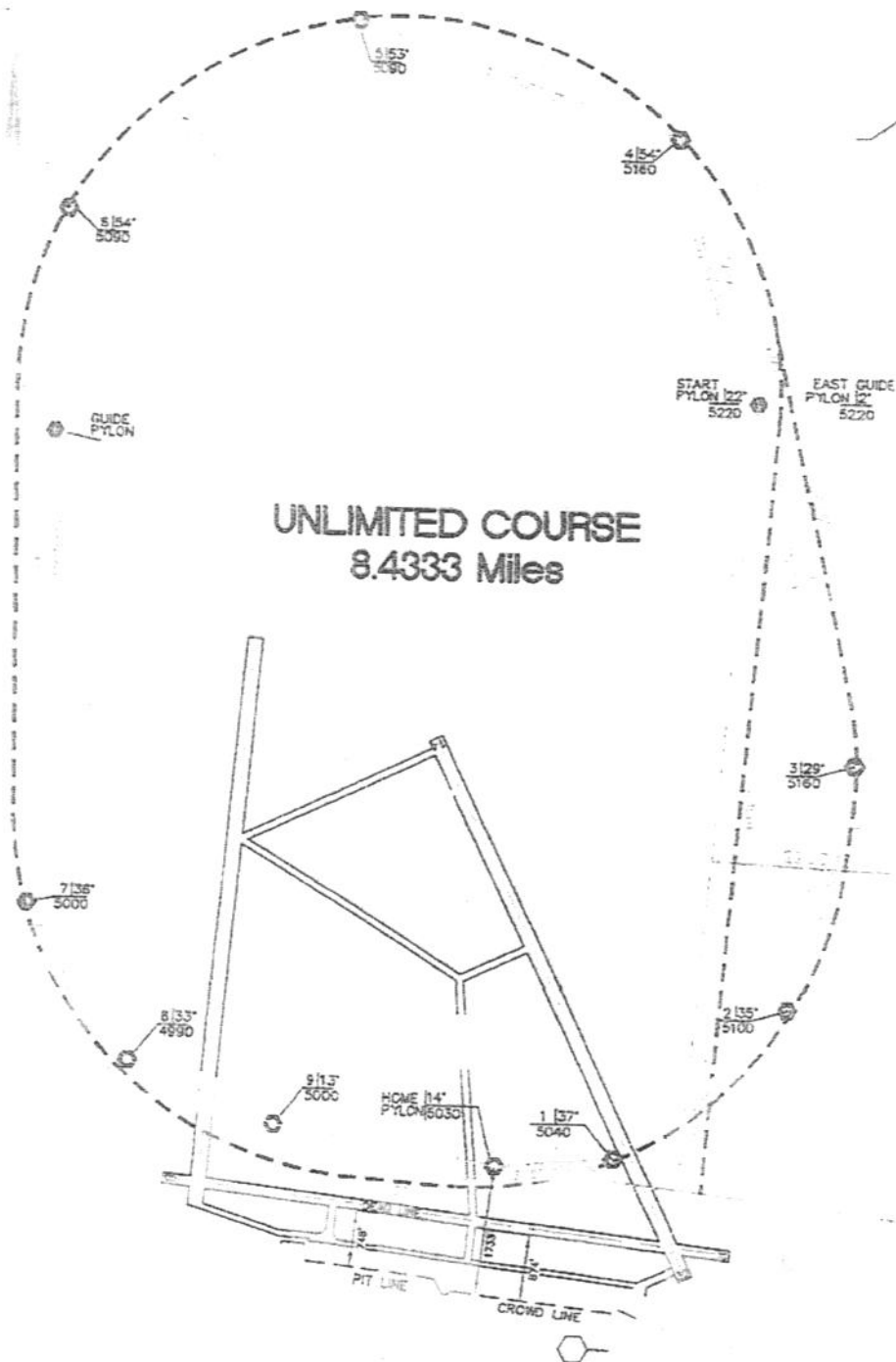
LEGEND

UNLIMITED COURSE



APPROVED COURSE

T.J. GRIBBIN 7/18/11

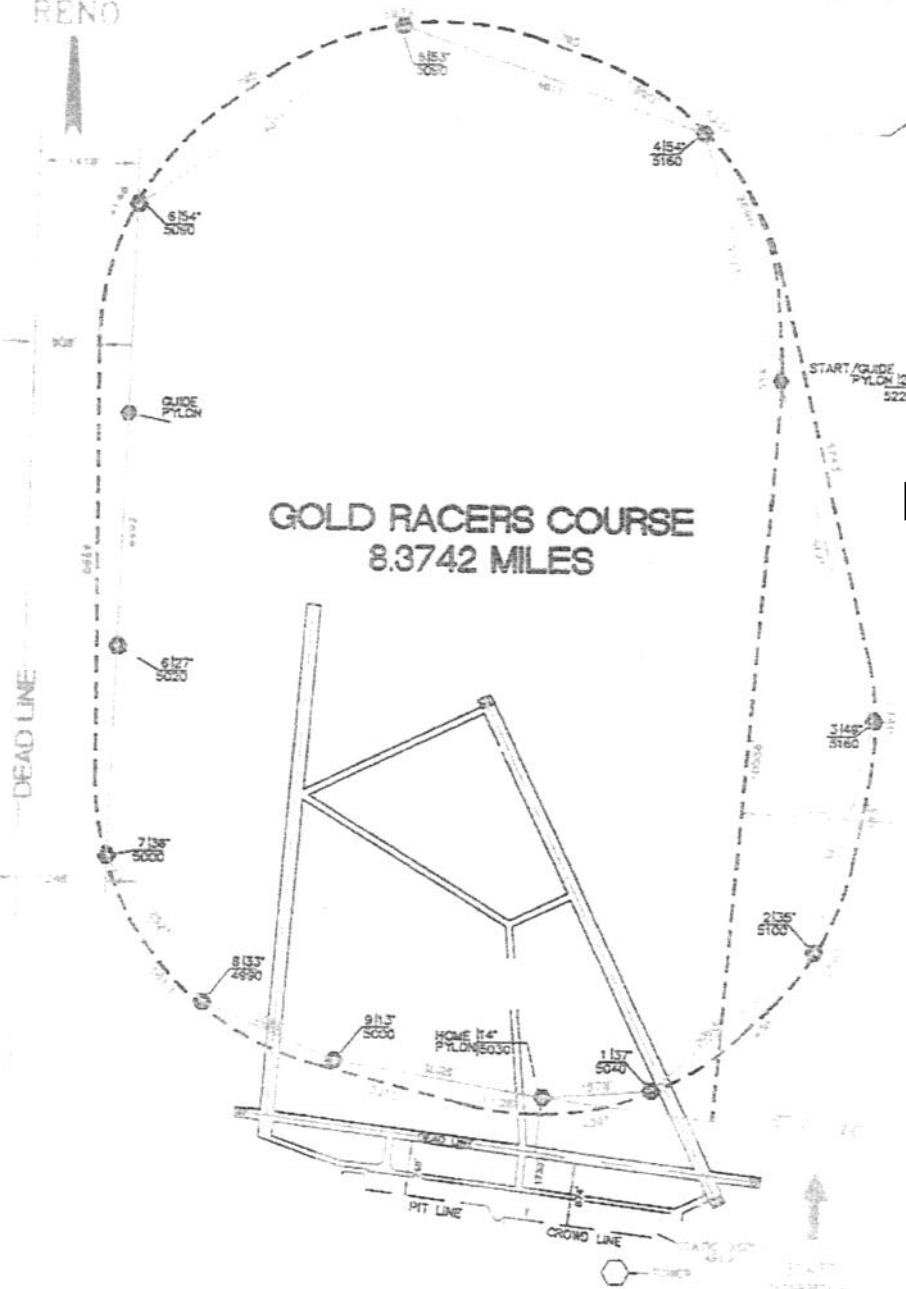


circrace 2008 unlim.dwg

**SPORT CLASS GOLD RACERS
OPTIMUM RACE PATH
CRITERIA = 425 MPH • 3.0 G's**

LEGEND

— SPORT COURSE



**GOLD RACERS COURSE
8.3742 MILES**

APPROVED COURSE

T.G. GRIBBIN 7/18/11

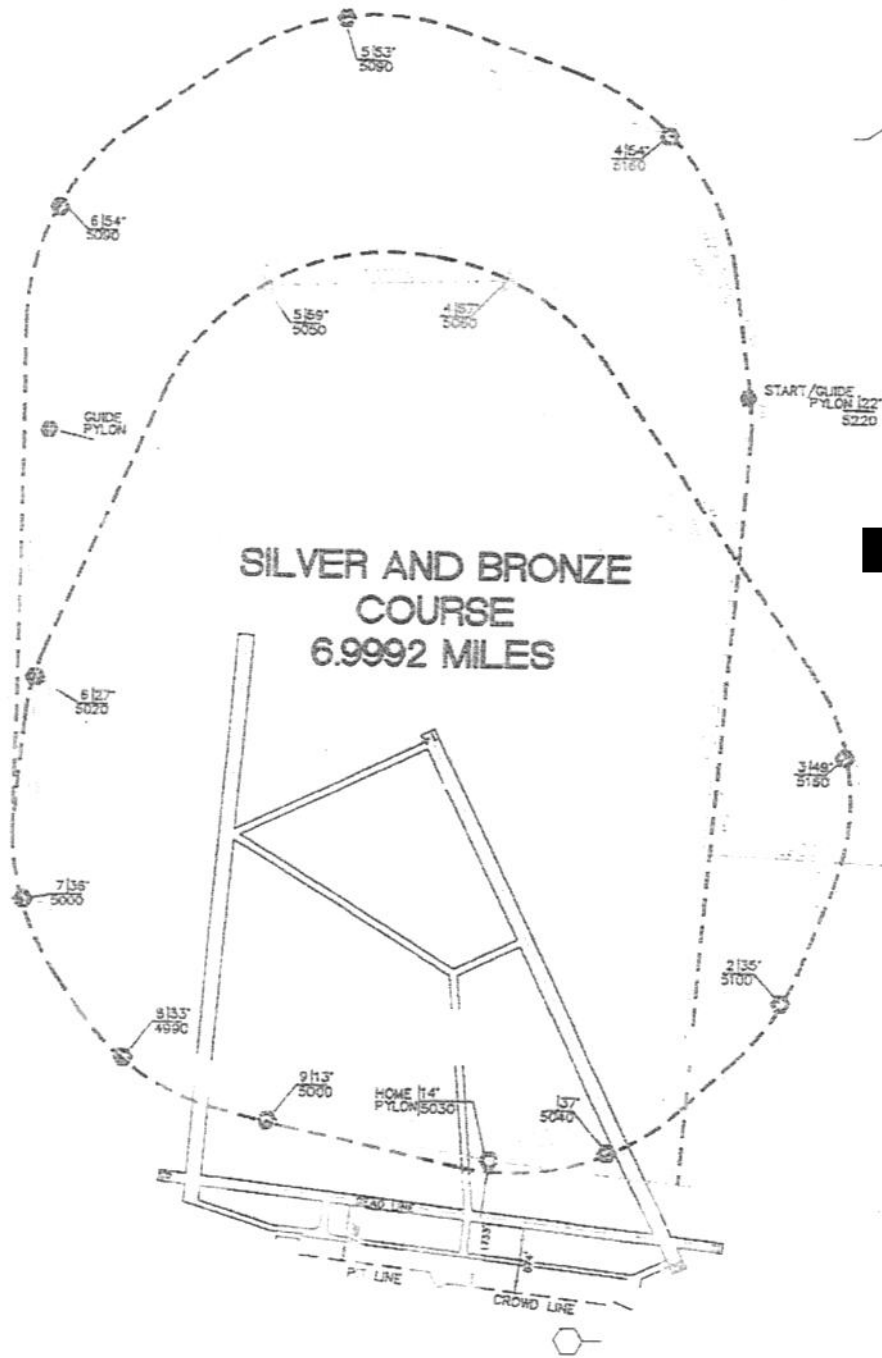
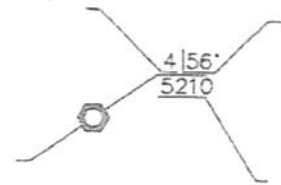
START LAP = 7.6770 MI.

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SILVER AND BRONZE RACERS OPTIMUM RACE PATH CRITERIA = 375 MPH @ 3.0 G's

LEGEND

SPORT COURSE



SILVER AND BRONZE
COURSE
6.9992 MILES

APPROVED COURSE

T.J. GRIBBIN 7/18/11

START LAP = 7.8496 MI.

airrace 2008 sport.dwg

T-6 CLASS OPTIMUM RACE PATH CRITERIA = 225 MPH @ 2.0 G's

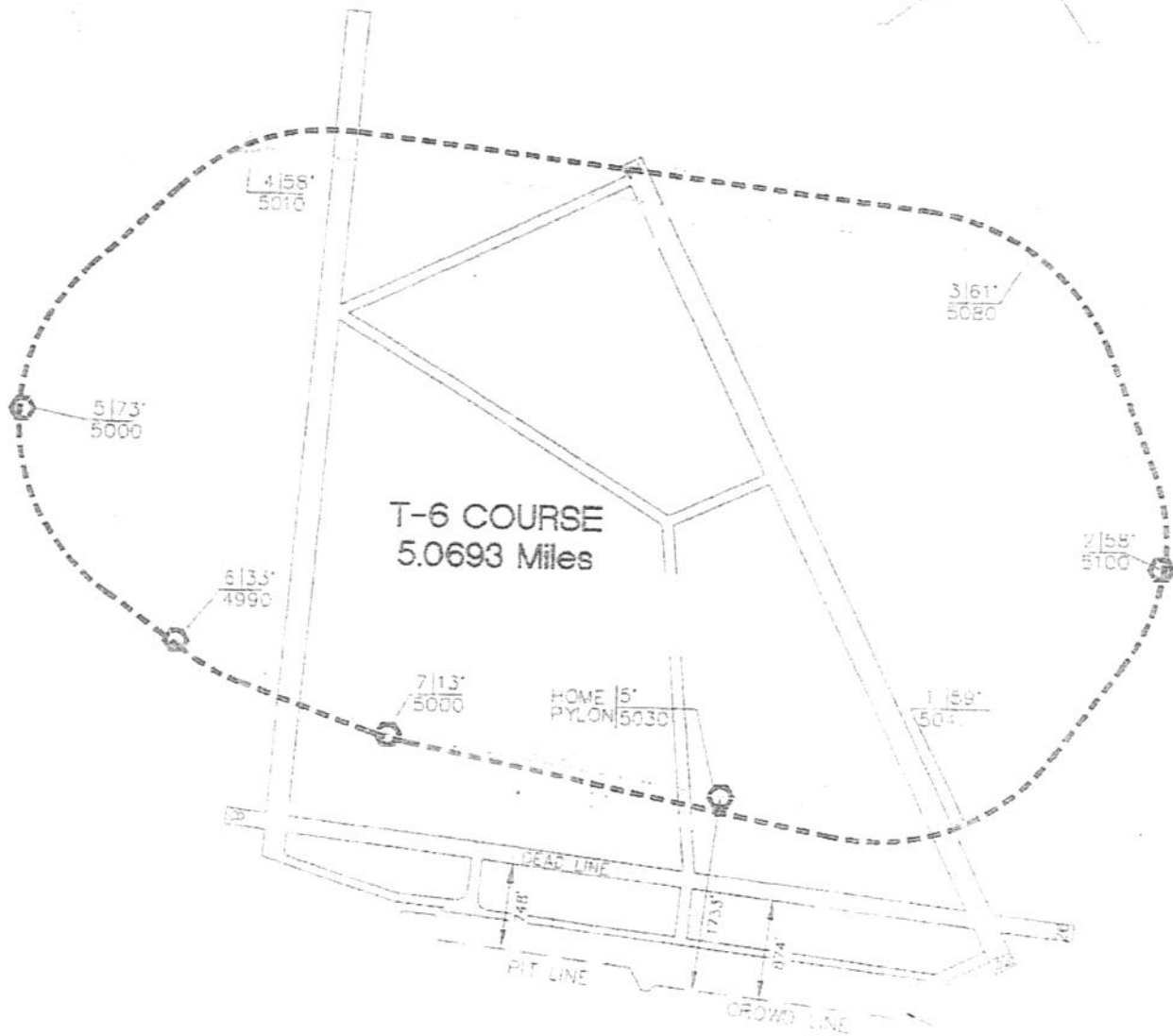
LEGEND

APPROVED COURSE



DATE: 7/18/11

T-6 COURSE

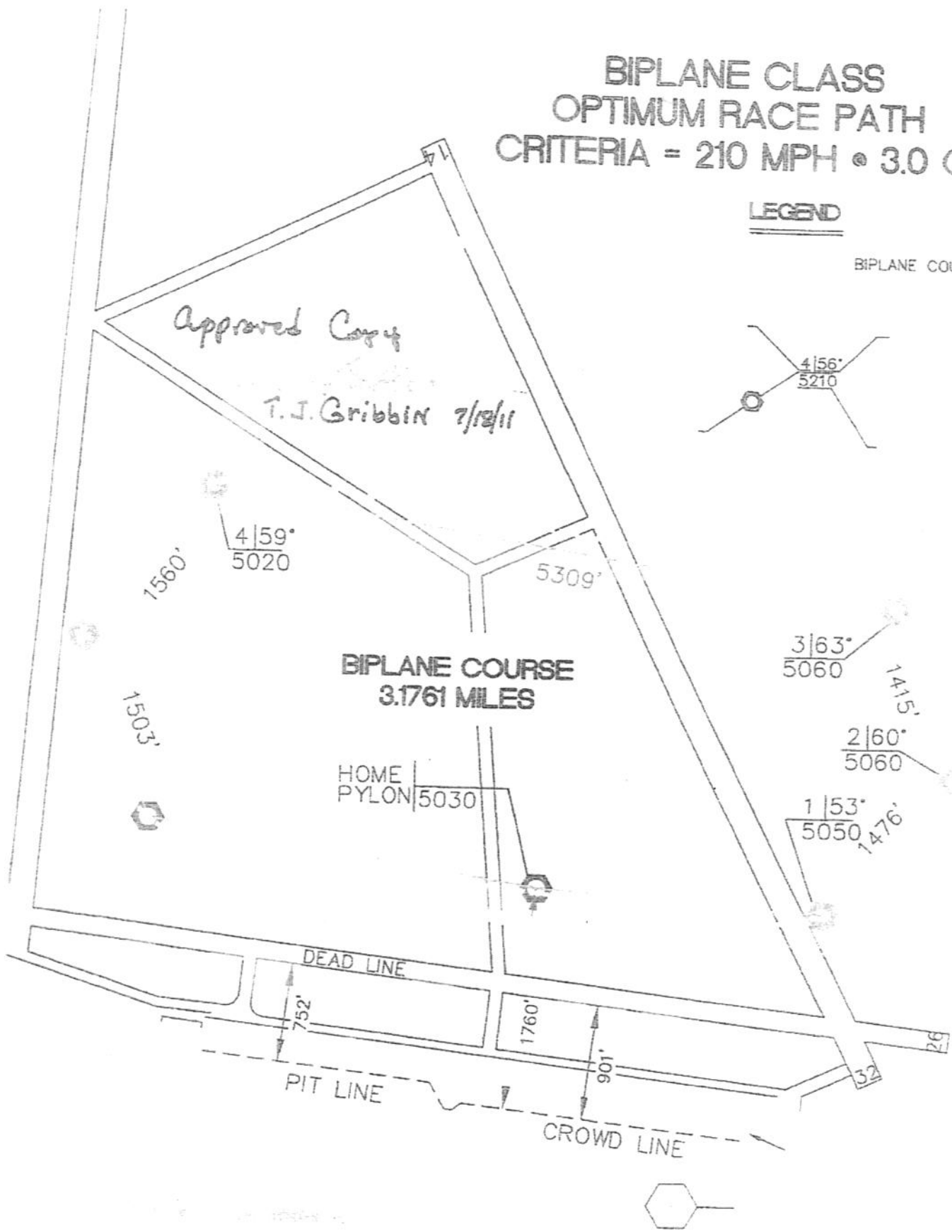


DATE: 4/20/08 10:00 AM
ARACE2008_T6.DWG

BIPLANE CLASS OPTIMUM RACE PATH CRITERIA = 210 MPH • 3.0 G's

LEGEND

BIPLANE COURSE

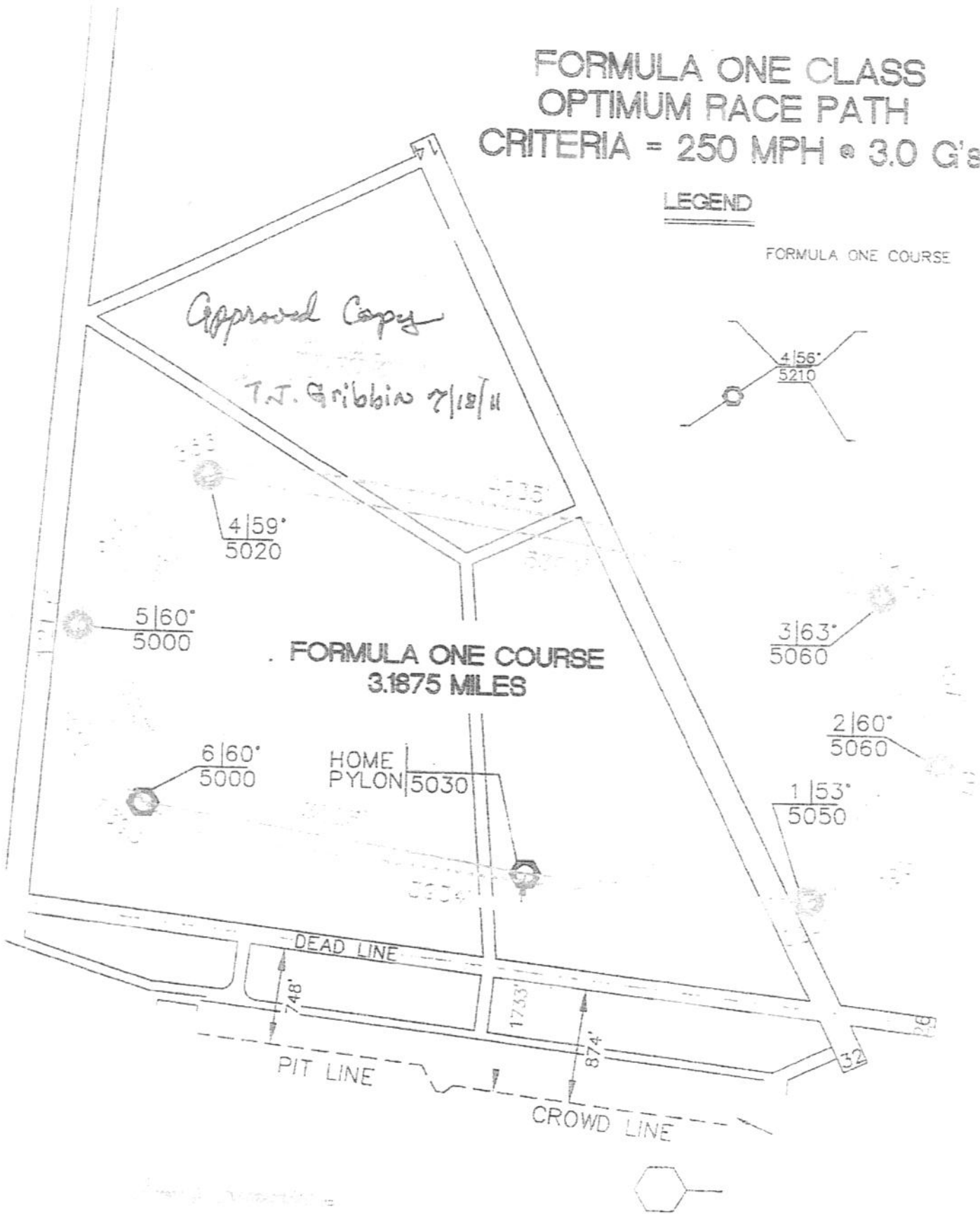


DATED 7/6/04
AIRACE2004.DWG

FORMULA ONE CLASS OPTIMUM RACE PATH CRITERIA = 250 MPH @ 3.0 G's

LEGEND

FORMULA ONE COURSE



DATED 7/06/04
AIRACE2004.DWG

OPTIMUM RACE PATHS

----- T-6 COURSE
5.0693 MILES

----- FORMULA ONE COURSE
3.1875 MILES

----- BIPLANE COURSE
3.1761 MILES

----- UNLIMITED COURSE
8.4033 MILES

----- START LAP = 7.9581 MI

----- JET COURSE
8.4703 MILES

----- START LAP = 7.9523 MI

----- SPORT COURSE
6.9982 MILES

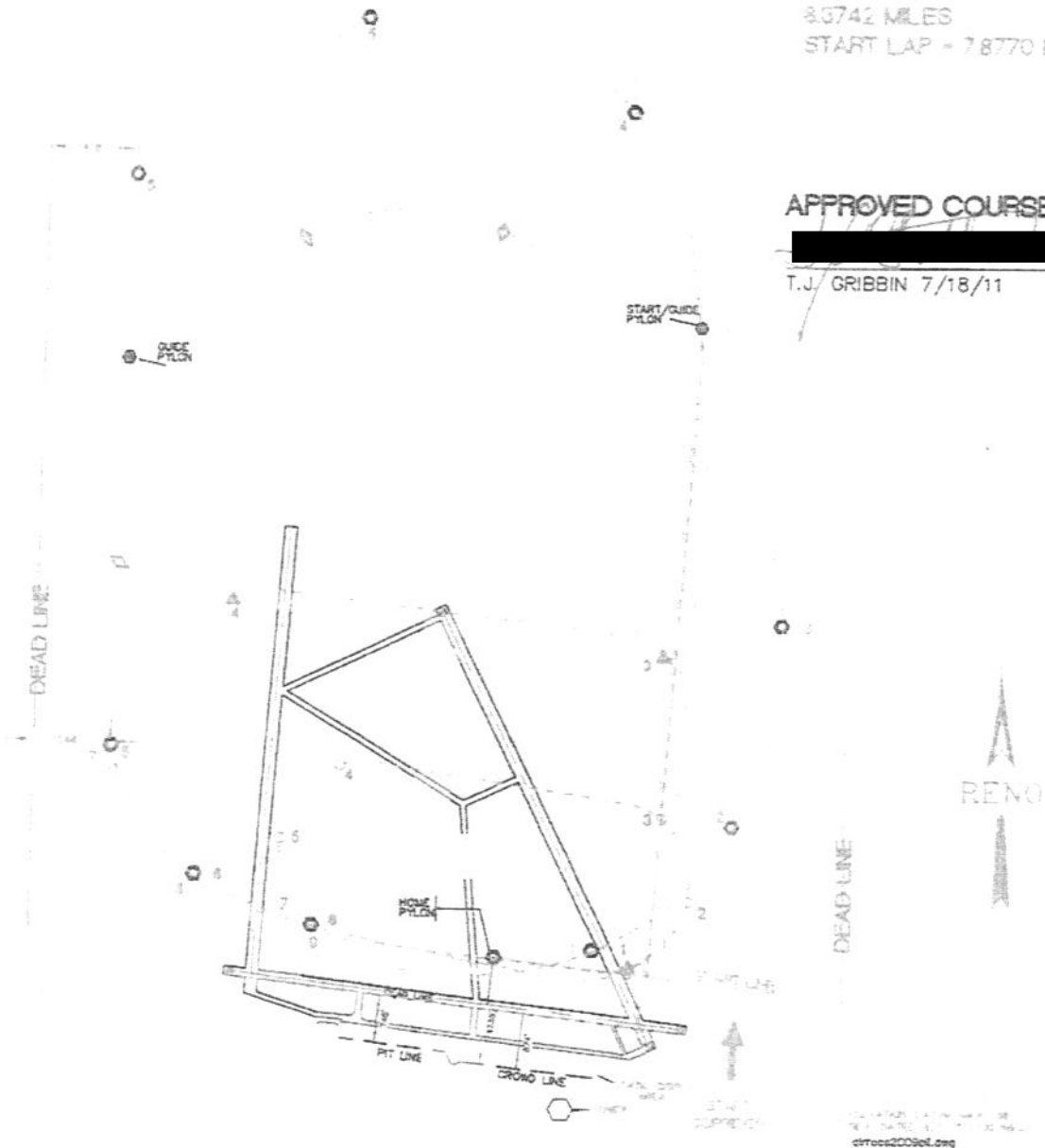
----- START LAP = 7.8496 MI

----- SPORT GOLD COURSE
8.3742 MILES

----- START LAP = 7.8770 MI

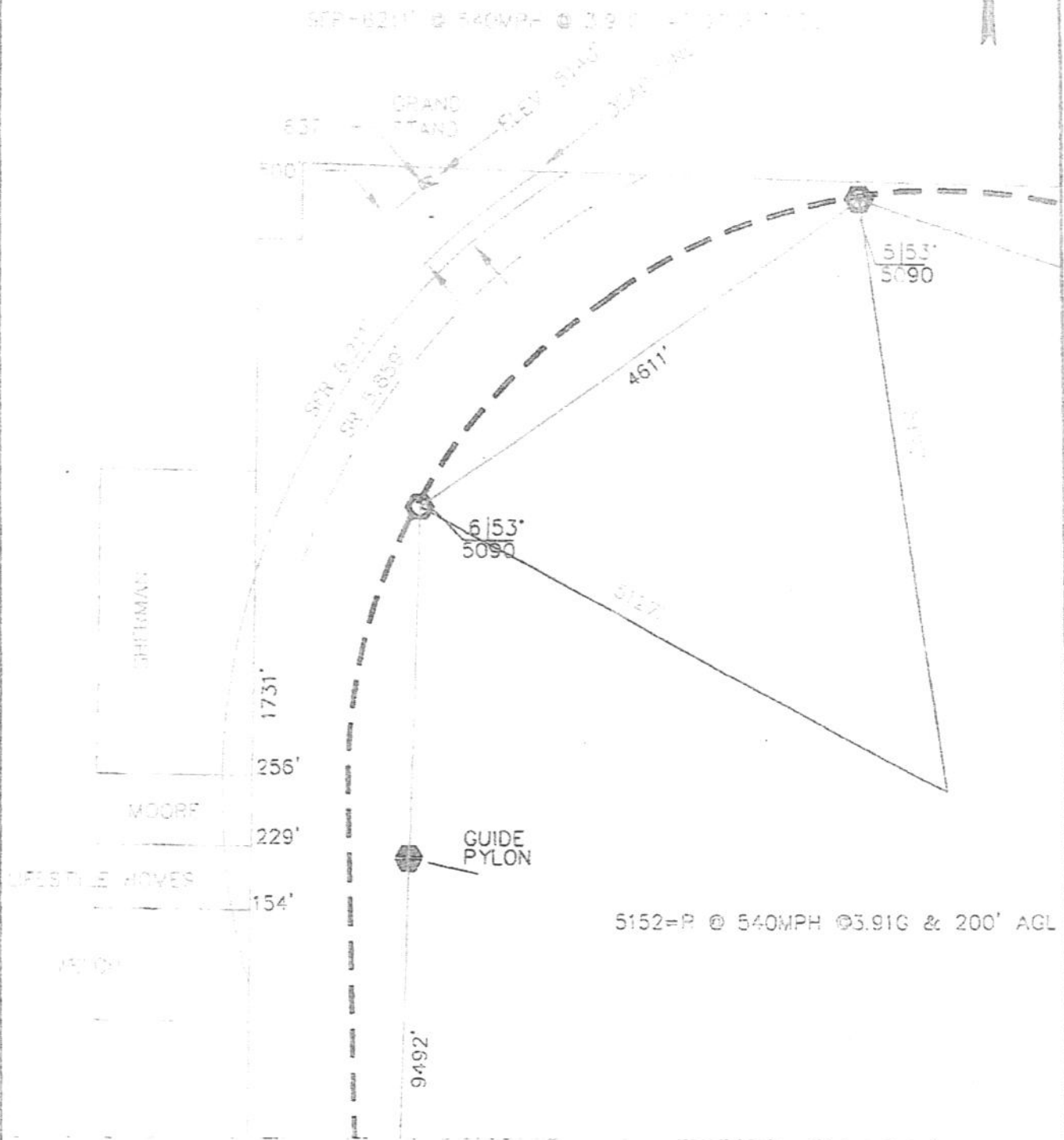
APPROVED COURSE

T.J. GRIBBIN 7/18/11



SFR (SAFETY RADII)

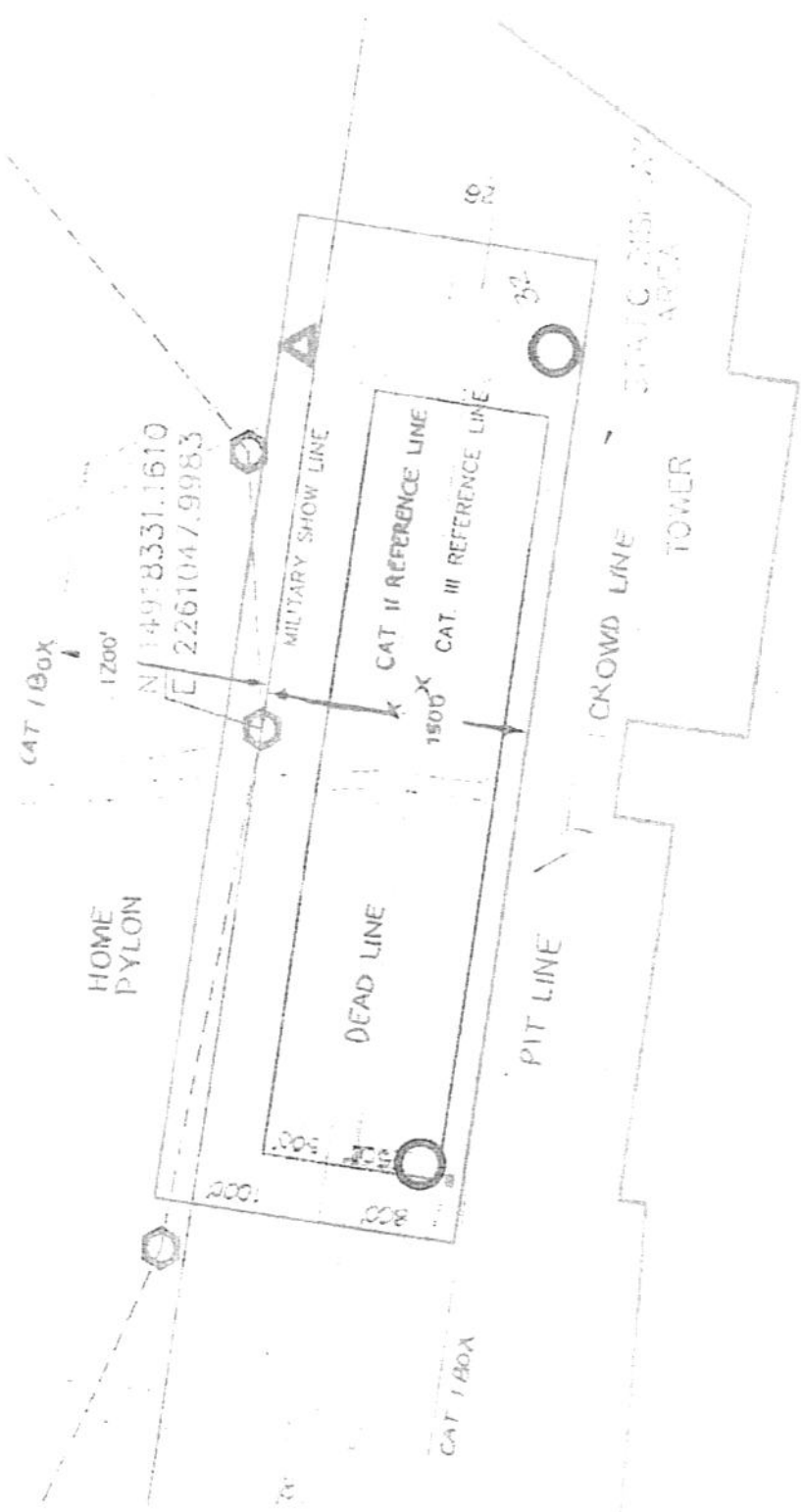
JET CLASS • 540 MPH, 3.9G • 200' AGL
 (VERIFICATION OF CLEARANCE FOR FASTEST QUALIFYING SPEED OF 538MPH)



JANUARY 5, 2010 TJG/MEG

APPRAISE 2008 JET SAFETY RADIUS
 P. 200

AEROBATIC BOX
CAT. I, II, + III



DATE: 07/10/00 10:00 AM REV: 1/19
BY: [unclear]
[unclear]



US Department of Transportation
Federal Aviation Administration

**APPLICATION FOR
CERTIFICATE OF WAIVER
OR AUTHORIZATION**

Form Approved OMB No. 2120-0027 08/31/2008

APPLICANTS - DO NOT USE THESE SPACES

Region: WESTERN TERRITORY Date: 09/01/2011

Action: Approved Disapproved - Explain under "Remarks"

Signature of authorized FAA representative

INSTRUCTIONS

Submit this application in triplicate (3) to any FAA Flight Standards district office.

Applicants requesting a Certificate of Waiver or Authorization for an aviation event must complete all the applicable items on this form and attach a properly marked 7.5 series Topographic Quadrangle Map(s), published by the U.S. Geological Survey (scale 1:24,000), of the proposed operating area. The map(s) must include scale depictions of the flightlines, showlines, race courses, and the location of the air event control point, Police dispatch, ambulance, and fire

fighting equipment. The applicant may also wish to submit photographs and scale diagrams as supplemental material to assist in the FAA's evaluation of a particular site. Application for a Certificate of Waiver or Authorization must be submitted 45 days prior to the requested date of the event.

Applicants requesting a Certificate of Waiver or Authorization for activities other than an aviation event will complete items 1 through 10 only and the certification, item 17, on the reverse.

1 Name of organization: Reno Air Race Association, Michael Houghton
2 Name of responsible person: William B. Eck, Director of Operations

3 Permanent mailing address: House number and street or route number: 14501 Mount Anderson, City: Reno, State and ZIP code: Nevada 89506, Telephone No: 775-872-6663

4 State whether the applicant or any of its principal officers/owners has an application for waiver pending at any other office of the FAA: N/A

5 State whether the applicant or any of its principal officers/owners has ever had an application for waiver denied, or whether the FAA has ever withdrawn a waiver from the applicant or any of its principal officers/owners: N/A

6 FAR section and number to be waived: 91.111(a), 91.117(a), 91.117(b), 91.119(b), 91.119(c), 91.121(a), 91.123(a), 91.127(a), 91.303(b), 91.303(d), 91.303(e), 91.515(a)

7 Detailed description of proposed operation (Attach supplement if needed):
- Air Show with Category I, II and III show lines for Aerobatic Demonstrations by Military and Civilian Performers.
- Closed Course Pylon Racing for the following Aircraft Classes: Jets, Unlimited, Super Sport, Sport, T-6, Biplane, and Formula One.

8 Area of operation (Location, altitudes, etc): See Attachment #1

9a Beginning (Date and hour): 09/11/2010 0800 PDT (See Remarks)
b Ending (Date and hour): 09/18/2010 1700 PDT (See Remarks)

Aircraft make and model (a)	Pilot's Name (b)	Certificate Number and rating (c)	Home address (Street, City, State) (d)
Details of the participating pilots will be furnished to the FAA prior to the event.			

ITEMS 11 THROUGH 15 TO BE FILLED OUT FOR AIR SHOW/AIR RACE WAIVER REQUESTS ONLY.

11 The air event will be sponsored by:
 FAA's Race Reading Association, Inc., FAA National Champion's Air Race

12 Permanent mailing address	House number and street or route number 12511 Minn. Boulevard	City Redo	State and ZIP code Sierrita, 94510	Telephone No. 925-413-4444
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13 Policing (Describe provisions to be made for policing the event.)
 (Assigned Law Enforcement Personnel)
 City of Reno Police Department
 Washoe County Sheriff Department
 Southern Shoshone Police

14 Emergency facilities (Mark all that will be available at time and place of air event.)

Physician Fire truck Other - Specify Helicopters and Civil Defense
 Ambulance Crash wagon Firewater District

15 Air Traffic control (Describe method of controlling traffic, including provision for arrival and departure of scheduled aircraft.)
 Race Control will use six VHF and one UHF frequencies as assigned by FAA Spectrum Management for Air & Ground Control, and 123.7 for advisory.
 Approved frequencies follow: 119.4, 121.65, 123.95, 126.4, 127.43, 131.73, 133.1

16 Schedule of Events (include arrival and departure of scheduled aircraft and other periods the airport may be open.)

Hour (a)	Date (b)	Event (c)
0800 EDT - 1700 EDT	09/11/2011	Sunday 9/11/2011 course familiarization.
0800 EDT - 1800 EDT	09/12/2011 09/14/2011	Monday 9/12/2011 through Wednesday 09/14/2011. Closed course Flyin Practice & Qualifying & Aerobatic Practice.
1200 EDT - 1700 EDT	09/15/2011 09/16/2011	Thursday 09/15/2011 through Sunday 09/18/2011. Closed course Flyin Racing & Aerobatic Demonstration.

If sufficient space is not available the entire schedule of events may be submitted on separate sheets, in the order and manner indicated above.

Please Read: The undersigned applicant accepts full responsibility for the strict observance of the terms of the Certificate of Waiver or Authorization, and understands that the authorization contained in such certificate will be strictly limited to the above described operation.

17 Certification: I CERTIFY that the foregoing statements are true.

Date: 07/19/2011
 Signature of Applicant: [Redacted]

Remarks:

12511 Minn. Blvd. Redo, NV 89510	Route 100, Street 100, Redo, NV 89510
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