

August 13, 2018

Ms. Deirdre Clem
Senior Planner/Project Manager
LACO Associates
21 W Fourth Street
Eureka, California 95501

RE: Consistency Evaluation for the Southern Humboldt Community Healthcare District Facility Expansion in Garberville Based Upon the 2011 California Airport Land Use Planning Handbook

Dear Ms. Clem:

LACO Associates contracted with Coffman Associates, Inc. to provide a consistency evaluation for the Southern Humboldt Community Healthcare District (SHCHD) Facility Expansion in Garberville based upon the *2011 California Airport Land Use Planning Handbook* (2011 Handbook). The following sections provide a brief history of the Humboldt County Airport Land Use Commission's (ALUC) review of the SHCHD proposed project, summary of the *1993 Airport Land Use Compatibility Plan for Humboldt County Airports* (1993 ALUCP), summary of the 2011 Handbook, assumptions used to prepare updated safety compatibility zones and compatibility criteria based upon the 2011 Handbook, updated noise compatibility based upon the 2011 Handbook, feasibility of modifying Garberville Airport's runway, and the potential loss of Federal Aviation Administration (FAA) funding, should the Humboldt County Board of Supervisors overrule the ALUC inconsistency ruling from June 19, 2018.

Project History

The SHCHD Facility Expansion proposal was determined not to be consistent with 1993 ALUCP by the Humboldt County ALUC on June 19, 2018. The reason for the inconsistency determination was that the proposed site for the SHCHD Facility Expansion is located within the Common Traffic Pattern Zone C for Garberville Airport. According to Table 2A of the 1993 ALUCP, hospitals are prohibited within the Common Traffic Pattern Zone C. Additional concerns were raised by the Humboldt County ALUC during the June 19th hearing; however, these concerns will be addressed under separate cover.

1993 Airport Land Use Compatibility Plan for Humboldt County Airports

The 1993 ALUCP was adopted in March 1993 and was based upon guidance from the *1990 Airport Land Use Compatibility Handbook*. The assumptions used to determine airport land use compatibility noise, safety, and airspace zones for the current 1993 ALUCP include:

- Airport Layout Plan (December 1992)
- Existing Operations (1991 - 12,608 operations)
- Future Operations (2011 - 20,000 operations)
- Title 14 of the Code of Federal Regulations Part 77 (14 CFR Part 77) Airspace Drawing (May 1991)

Ms. Deirdre Clem
August 13, 2018
Page Two

There is one amendment to the 1993 ALUCP included in the version of the document LACO Associates provided Coffman Associates, Inc. to review. This amendment occurred in 1998 and included changes to the safety zones for Arcata-Eureka Airport. The 1998 amendment did not include changes to the Garberville Airport compatibility zones or criteria.

The 1993 ALUCP safety zones for the Garberville Airport are depicted on **Exhibit A**. As seen on **Exhibit A**, the Proposed SHCHD Facility Expansion site partially falls within Common Traffic Pattern Zone C. Common Traffic Pattern Zone C is determined by creating an arc starting 200 feet off the end of the runway along the centerline and extending out 5,000 feet. The Common Traffic Pattern Zone C also coincides with the horizontal surface contained in the 14 CFR Part 77 Airspace Plan drawing for Garberville Airport included in the 1993 ALUCP.

The 1993 ALUCP noise exposure contours for 1991 and 2011 for Garberville Airport are depicted on **Exhibit B**. As seen in **Exhibit B**, neither the 1991 nor 2011 noise exposure contours reach the Proposed SHCHD Facility Expansion site.

2011 California Airport Land Use Planning Handbook Analysis

The 2011 Handbook is the primary resource guidance document provided by CALTRANS as mandated per Article 3.5, Airport Land Use Commissions, PUC Sections 21670 – 21679.5. The purpose of the 2011 Handbook is to provide guidance for conducting airport land use compatibility planning. Article 3.5 mandates that CALTRANS create a Handbook that contains the identification of essential elements for the preparation of an Airport Land Use Compatibility Plan (PUC Sections 21674.5 and 21674.7). The 2011 Handbook is intended to (1) provide information to ALUCs, their staffs, airport proprietors, cities, counties, consultants, and the public, (2) to identify the requirements and procedures for preparing effective compatibility planning documents, and (3) define exemptions where applicable. There have been several iterations of the Handbook (1990, 1993, 2002, and 2011) prepared by CALTRANS and their consultants.

The 1990 Handbook iteration focused on providing information on the *State Aeronautics Act*, an overview of flight rules, noise considerations, safety considerations, annoyance, and potential compatibility measures. Specific guidance was not given on the size and shape of safety compatibility zones (safety zone dimension guidance was not provided until the 1993 Handbook iteration). This differs significantly from the 2011 Handbook as this iteration builds on the lessons learned, land use case law, updated accident statistics, and research. The 2011 Handbook also provides dimensioned safety zone examples with corresponding compatibility criteria. The 2011 Handbook is the most recent iteration and its guidance includes:

- Information for ALUCs, their staffs, airport proprietors, cities, counties, consultants, and the public; and
- Requirements and procedures for preparing effective compatibility planning documents.

Ms. Deirdre Clem
August 13, 2018
Page Three

There are three sets of key planning assumptions for ALUCPs: (1) a current Airport Master Plan or Airport Layout Plan (ALP); (2) 20-year aviation activity forecasts; and (3) a current 14 CFR Part 77 Airspace Drawing. State law requires that ALUCs base their airport land use compatibility plans on up-to-date airport master plans or ALPs (Pub. Util. Code §21675[a]).

It should be noted that Humboldt County is in the process of updating the 1993 ALUCP (based upon the 1990 Handbook) and we anticipate that they will follow the guidance of the 2011 Handbook. Coffman Associates, Inc. reviewed and prepared exhibits depicting airport land use compatibility safety and noise zones as they relate to the proposed SHCHD Facility Expansion site and the Garberville Airport, based on guidance in the 2011 Handbook using the following information and assumptions:

- May 2007 Draft Final Airport Master Plan (2007 AMP) for Garberville Airport.
- January 2007 ALP for Garberville Airport.
- Runway end coordinates (per the January 2007 ALP for Garberville Airport).
- Runway length of Runway 18-36 is to remain at 2,783 feet (per the 2007 AMP).
- The published traffic pattern is on the east side of the airport.
- The 2025 forecast is 18,875 aircraft operations annually (per the 2007 AMP).
- ESRI base mapping and aerial imagery were used for this analysis.

Base mapping from the Humboldt County Geographical Information System (GIS) was not used due to conversion issues from North American Datum (NAD) 1927 used by Humboldt County to NAD 1983, which is native to ESRI software. The runway end coordinates would not line up correctly with the converted Humboldt County GIS data. Therefore, ESRI base mapping and aerial imagery were used for this analysis.

The 2011 Handbook provides safety zone dimension guidance for the categories of general aviation airports based upon an airport's runway length (see **Exhibit C**). Garberville Airport's 2,783-foot runway puts it in the short general aviation runway category for safety zones (less than 4,000 feet of runway). It should be noted that the traffic pattern zone is dimensioned from the runway end. **Exhibit D** depicts the Garberville Airport Safety Zones based upon the 2011 Handbook criteria for short general aviation runways. The Inner Turning Zone is only shown on the east side of the airport because the published aircraft traffic pattern is on the east side of the airport. The Proposed SHCHD Facility Expansion site falls outside the safety zones based upon the 2011 Handbook guidance. The 2011 Handbook does not provide specific safety compatibility criteria for areas located outside the safety zones. Therefore, safety compatibility criteria would not be applied to the Proposed SHCHD Facility Expansion site.

The most recent forecast noise exposure contours for the Garberville Airport are contained in the 2007 AMP and depicted on **Exhibit E**. The 2025 forecast outer 55 CNEL noise exposure contours do not reach the Proposed SHCHD Facility Expansion site. The 2011 Handbook does not provide specific noise compatibility criteria for areas located outside the noise exposure contours. Therefore, noise compatibility criteria would not be applied to the Proposed SHCHD Facility Expansion site.

Ms. Deirdre Clem
August 13, 2018
Page Four

It should be noted that this analysis looked only at safety and noise compatibility. The existing terrain in the vicinity of the airport already penetrates the 14 CFR Part 77 surfaces to the west and southeast of the airport. If it has not already been completed, coordination with FAA should be undertaken using FAA's Form 7460, Notice of Proposed Construction or Alteration, to ensure the Proposed SHCHD Facility Expansion is not an obstruction or hazard to flight. If the hospital expansion includes a helipad, additional coordination will also be necessary to ensure compatibility with Garberville Airport.

Garberville Airport Modification and Loss of Federal Funding Support

As previously discussed, the runway at Garberville Airport is 2,783 feet long, which is classified as a short general aviation runway in the 2011 Handbook. The 2007 AMP states on page 3-6 that a "runway extension at Garberville Airport is not recommended due to terrain limitations." Therefore, a runway extension is not planned for the Garberville Airport in the long term. Additionally, given the runway length and the recent pavement rehabilitation project at the airport, which was funded by FAA, CALTRANS and Humboldt County support for shortening the runway is highly unlikely. Since lengthening or shortening the runway is not planned and highly unlikely, the site will remain outside the 2011 Handbook safety zones.

Humboldt County has accepted approximately \$2.4 million in Federal Aviation Administration (FAA) Airport Improvement Program (AIP) grants since 2015 for rehabilitating runways and taxiways, apron construction, obstruction removal, and aeronautical surveys. In addition, both CALTRANS and Humboldt County provide matching funds up to 10 percent of the total cost of these projects. In addition, CALTRANS issues operating permits to airports in California and regularly inspects for safety. Shortening the runway could jeopardize Humboldt County's airport permit for Garberville Airport, which would effectively close it down, further complicating the grant assurances discussed in the next paragraph.

When airport owners or sponsors, such as Humboldt County, accept funds from FAA-administered airport financial assistance programs like AIP, they must agree to certain obligations (or assurances). These obligations require the recipients to maintain and operate their facilities safely and efficiently and in accordance with specified conditions. The Grant Assurance 21, Compatible Land Use, is the most applicable in this case. Grant Assurance 21 states that an airport sponsor 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." Humboldt County's development and maintenance of an ALUCP helps Humboldt County comply with Grant Assurance 21. Updating the Humboldt County ALUCP based upon the 2011 Handbook guidance should not jeopardize compliance with Grant Assurance 21. It should be noted, however, FAA's determination that a grant assurance violation has occurred due to overrule of the 1993 ALUCP allowing the Proposed SHCHD Facility Expansion cannot be reliably predicted by someone outside the FAA.

Ms. Deirdre Clem
August 13, 2018
Page Five

Summary

As noted in the 2011 Handbook, the publication of the latest version of the handbook does not trigger the need to update a previously adopted ALUCP. The 2011 Handbook further states that ALUCs are well-served to consider the adequacy of their adopted ALUCPs with regards to: statutory changes since the last ALUCP update, changes in current or forecasted operations at the airport(s) covered by the ALUCP, and changes in development patterns or land use plans in the vicinity of the airport(s) covered by the ALUCP. The 1993 ALUCP is clearly outdated and Humboldt County is in the process of updating this document.

The Proposed SHCHD Facility Expansion site is compatible with the 2011 Handbook guidance with respect to both safety and noise compatibility. However, Humboldt County is under no obligation to strictly adhere to noise and safety zone guidance in the 2011 Handbook. The 2011 Handbook states, "The sample policies are intended as examples only, and should be tailored to fit the needs of a specific airport or community."

As previously noted, this analysis looked only at safety and noise compatibility. Airspace protection is also an important airport compatibility criterion. If it has not already been completed, FAA's Form 7460, Notice of Proposed Construction or Alteration, should be prepared and submitted to FAA to ensure the Proposed SHCHD Facility Expansion is not an obstruction or hazard to flight.

FAA, CALTRANS, and Humboldt County have made a significant investment in Garberville Airport recently. Coordination with these entities is needed to ensure future grants will not be jeopardized if an overrule of the 1993 ALUCP is undertaken.

Please do not hesitate to contact us if you have any questions. We can be reached at 1-800-892-7772.

Sincerely,



Dave Fitz, AICP, LEED Green Associate
Principal


Attachments:

- Exhibit A 1993 ALUCP Safety Zones for Garberville Airport
- Exhibit B 1993 ALUCP noise exposure contours for 1991 and 2011 for Garberville Airport
- Exhibit C 2011 Handbook Safety Zone Examples
- Exhibit D Safety Zones Based Upon the 2011 Handbook
- Exhibit E 2025 Noise Exposure Contours

Date: 3/15/2018 Time: 11:40:18 AM
 Path: P:\8600\8609 SoHum Comm Health Dist\8609.03 Facility Expansion\12 Figures_Maps\GIS\Airport Land Use Compatibility 11x17.mxd

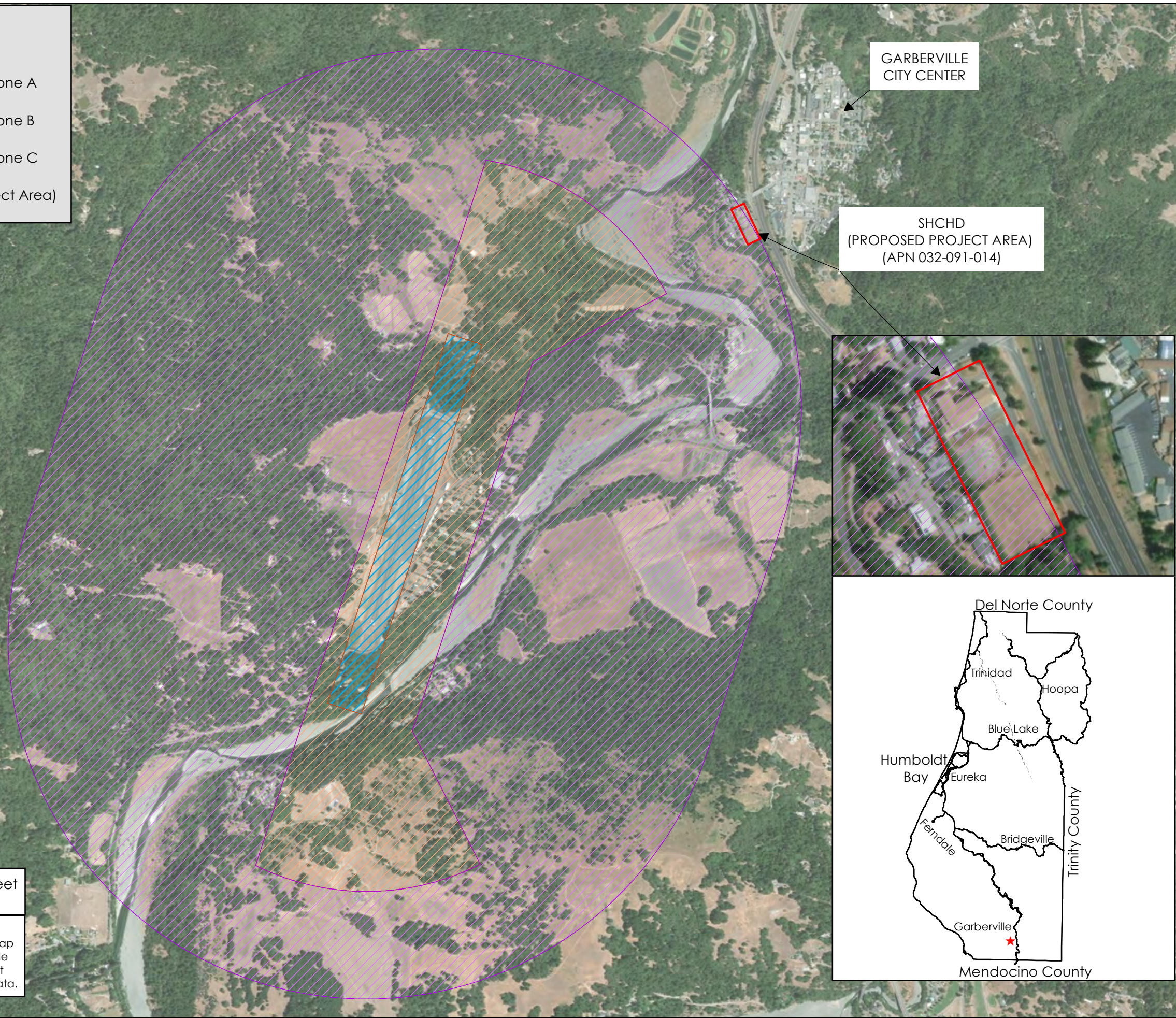
Legend

-  Airport Compatibility Zone A
-  Airport Compatibility Zone B
-  Airport Compatibility Zone C
-  SHCHD(Proposed Project Area)



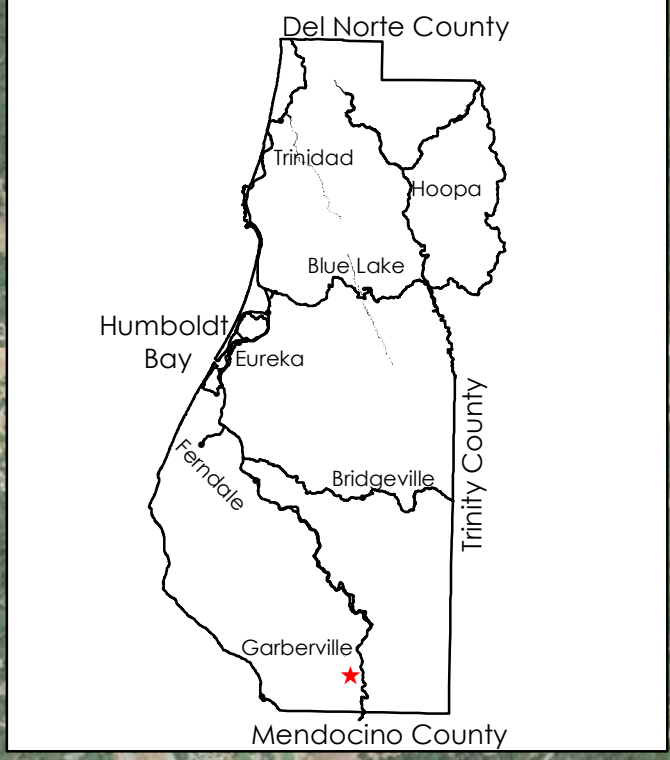
0 500 1,000 2,000 Feet

Note:
 The information illustrated in this map was derived from publicly-available GIS data. LACO Associates cannot guarantee the accuracy of the data.



GARBERVILLE CITY CENTER

SHCHD
 (PROPOSED PROJECT AREA)
 (APN 032-091-014)

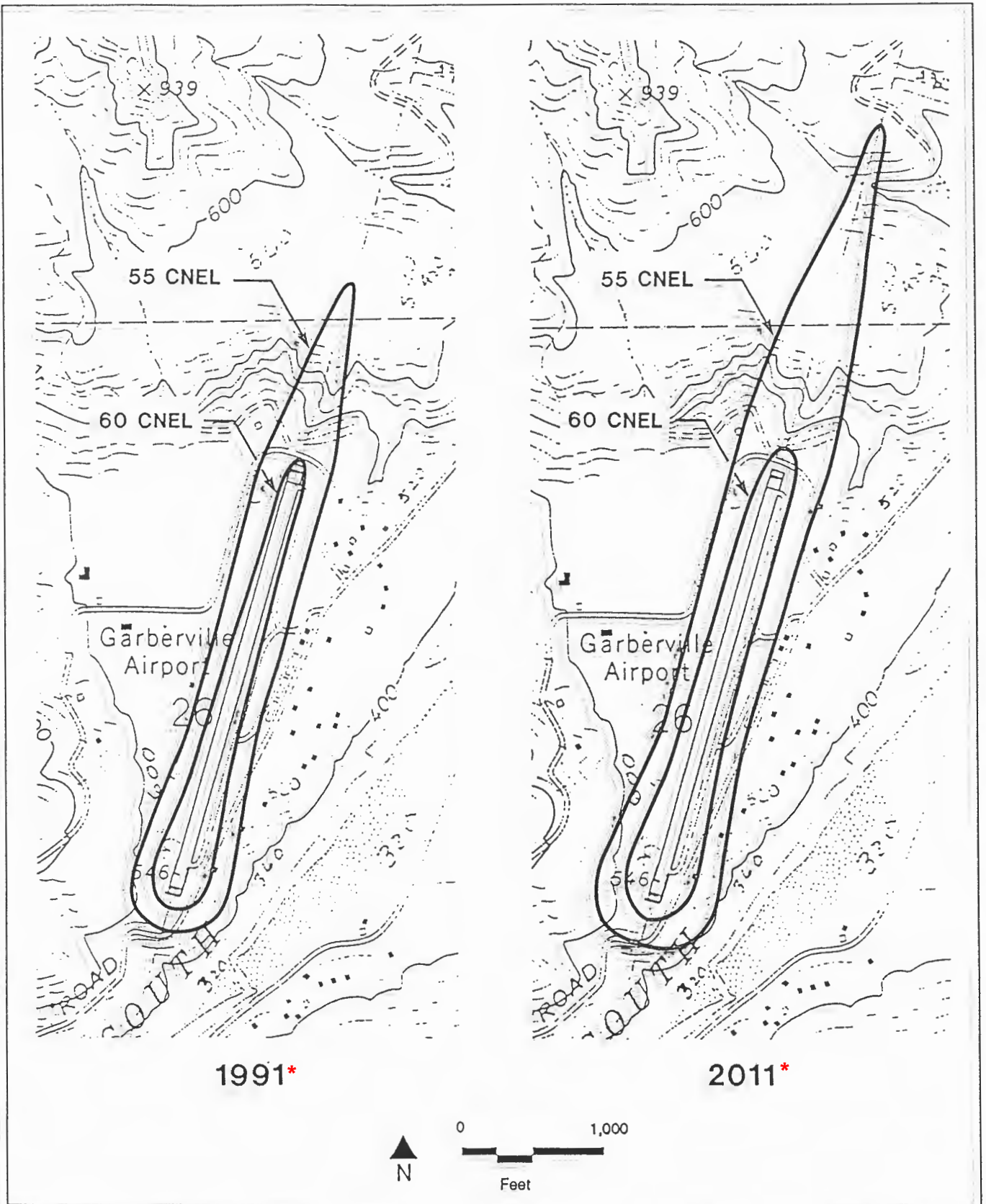


LACO
 EUREKA • UKIAH • SANTA ROSA
 1-800-515-5054
 www.lacoassociates.com

NO.	HISTORY/REVISION	BY	CHK.	DATE

AIRPORT LAND USE COMPATIBILITY ZONE
 FACILITY EXPANSION
 APN 032-091-014
 SOUTHERN HUMBOLDT COMMUNITY HEALTHCARE DISTRICT
 286 SPROWL CREEK ROAD, GARBERVILLE, CALIFORNIA

DRAWN	CMB
CHECK	MMM
APPROVED	DNC
DATE	3/15/2018
JOB NO.	8609.03



*The Southern Humboldt Community Healthcare District project site is not located within the noise exposure contours.

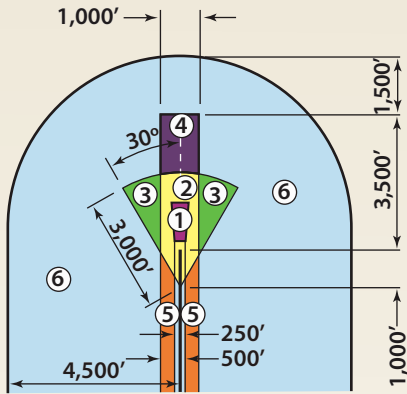
Noise Contours
 Garberville Airport
 Exhibit B

Garberville Airport falls under this safety zone example category

SHORT GENERAL AVIATION RUNWAY

Assumptions:

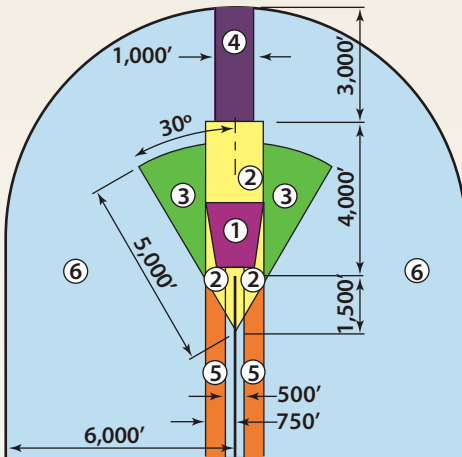
- Length less than 4,000 feet
- Approach visibility minimums \geq 1 mile or visual approach only
- Zone 1 = 250' x 450' x 1,000'



MEDIUM GENERAL AVIATION RUNWAY

Assumptions:

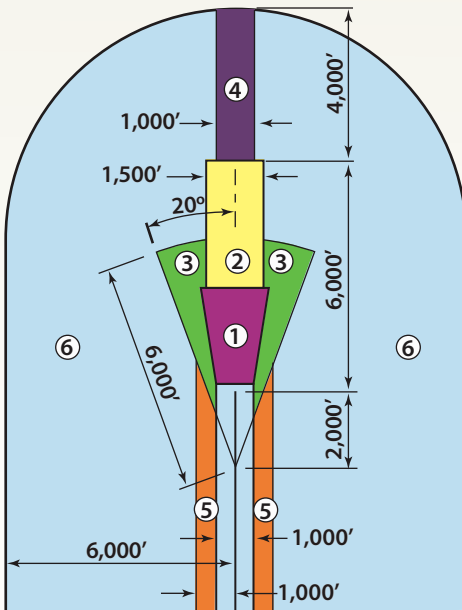
- Length 4,000 to 5,999 feet
- Approach visibility minimums \geq 3/4 mile and < 1 mile
- Zone 1 = 1,000' x 1,510' x 1,700'



LONG GENERAL AVIATION RUNWAY

Assumptions:

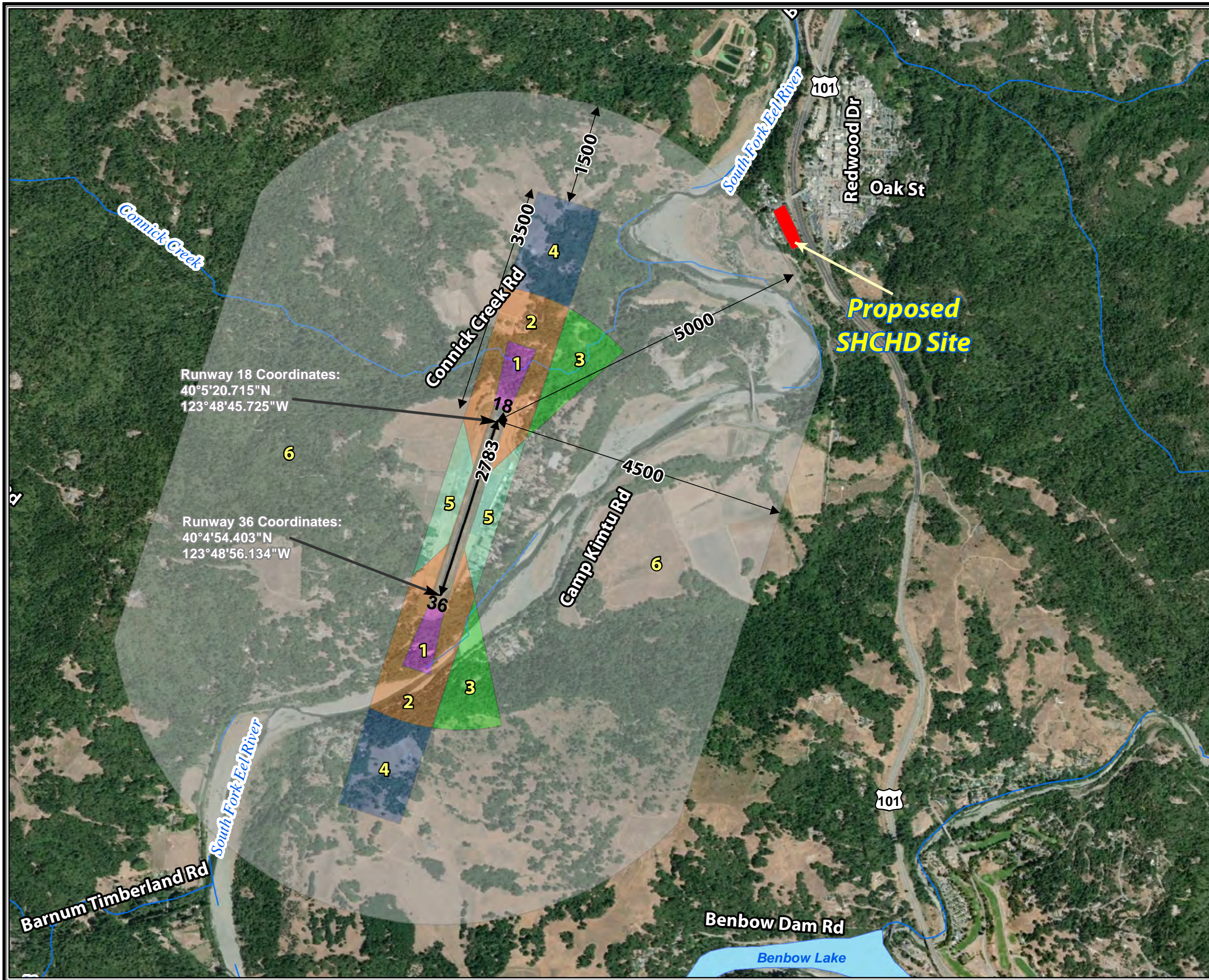
- Length 6,000 or more
- Approach visibility minimums < 3/4 mile
- Zone 1 = 1,000' x 1,750' x 2,500'



LEGEND

- | | | |
|--|--|---|
| 1 Runway Protection Zone | 3 Inner Turning Zone | 5 Sideline Zone |
| 2 Inner Approach/Departure Zone | 4 Outer Approach/Departure Zone | 6 Traffic Pattern Zone |

Source: California Airport Land Use Planning Handbook, 2011.



LEGEND

- Runway¹
 - Rivers
 - Proposed SHCHD Site
- Short General Aviation Runway ALUCP Zones²**
- 1 Runway Protection Zone
 - 2 Inner Approach/Departure Zone
 - 3 Inner Turning Zone
 - 4 Outer Approach/Departure Zone
 - 5 Sideline Zone
 - 6 Traffic Pattern Zone

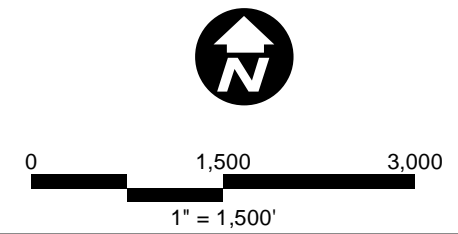
Data Sources:

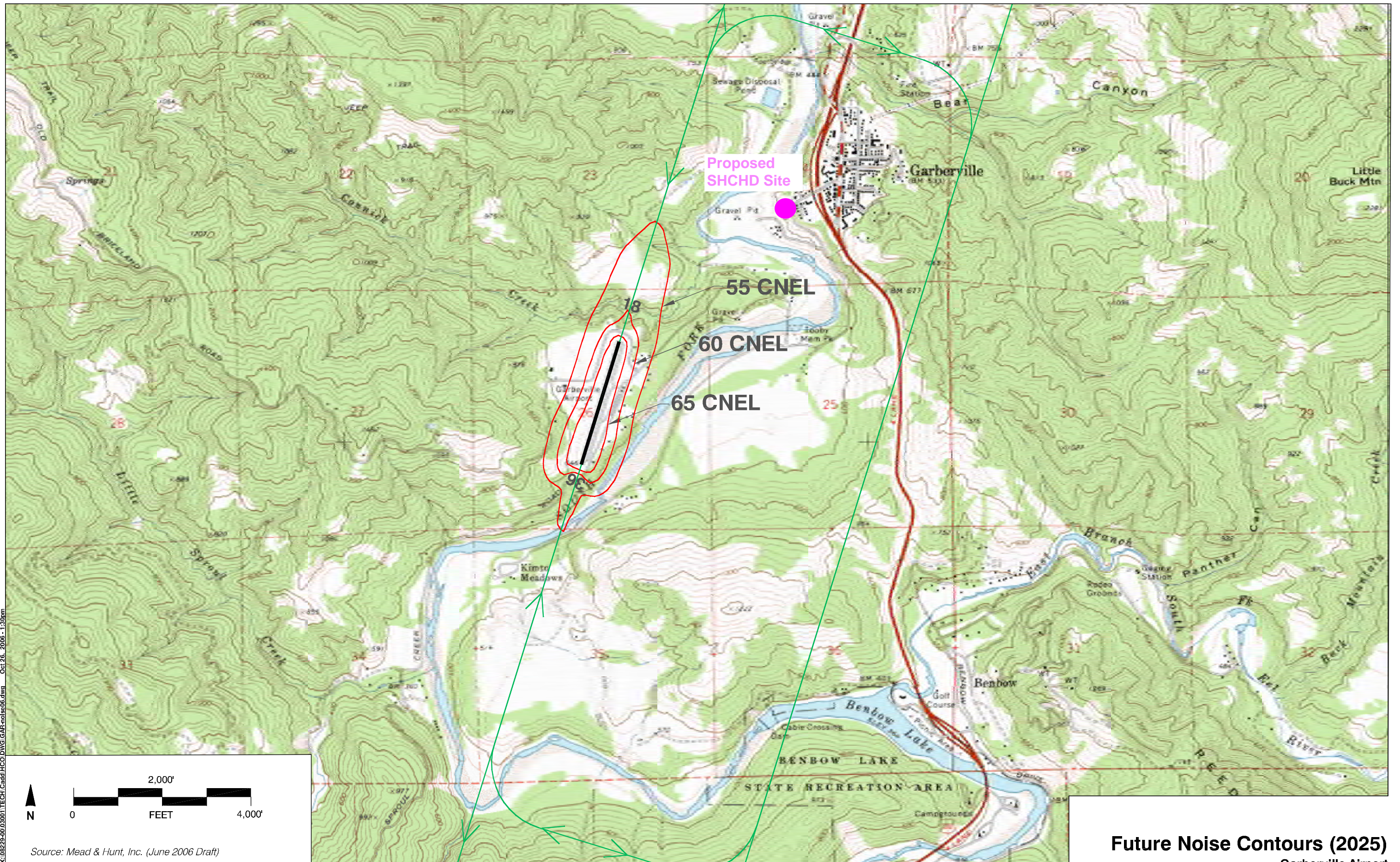
¹Runway 18 Coordinates:
40°5'20.715"N 123°48'45.725"W

Runway 36 Coordinates:
40°4'54.403"N 123°48'56.134"W

² Based upon the 2011 California Airport Land Use Planning Handbook and Coffman Associates analysis.

Rivers and Imagery from ESRI, Digital Globe, Geo Eye, Earthstar Geographics, CNES/Airbus D S, USDA, USGS, AeroGRID, IGN and the GIS User Community.





X:\09229-00\09011\CH_Cadef\HCO.DWG GAR-noise06.dwg Oct 26, 2006 - 1:30pm

Source: Mead & Hunt, Inc. (June 2006 Draft)

Future Noise Contours (2025)
Garberville Airport
Exhibit E