

**County of Santa Clara**  
Roads and Airports Department



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September 21, 2022

Mark McClardy  
Director, Airports Division  
Western Pacific Region  
Federal Aviation Administration  
777 Aviation Blvd, Suite 150  
El Segundo CA 90245

Sent via email


Subject: Signage and Electrical Project at Reid Hillview Airport

Dear Mr. McClardy:

This letter is in response to FAA comments contained in your letter dated June 16, 2022, regarding the subject project at Reid-Hillview Airport. The County has evaluated the FAA comments and worked with our design engineer to respond to each comment. Those responses are contained in the attachment to this letter. There are several comments noted in red that require clarification from the FAA. We will work with FAA staff to understand the intent of those comments.

We are scheduled to complete the revisions to the plans in November 2022, and with FAA concurrence the County will bid and award the project for construction in early 2023.

Sincerely,

DocuSigned by:  
  
6DC28984CB2D46D...  
Harry Freitas  
Director of Roads and Airports

C: Laurie Suttmeier  
Brian Armstrong

## ATTACHMENT A

### Airfield Signage:

FAA comments are broken out into two categories: sign-specific and system-wide corrections.

#### A. Specific Sign Corrections:

1. We note that several runway incursions to Runway 31R have occurred on Taxiway E following landing on Runway 31L when the pilot was instructed to hold short of Runway 31R. This appears to show an operational need to include both Runway inscriptions at least on Taxiway E. (Reference AC 150/5340-18G, Paragraph 1.5.1). Additionally, ensure the holding position signs are installed in-line with the holding position marking. Both runway ends need to be treated the same for continuity Please consult with air traffic control.

*The plans will be updated to include full runway inscription and the hold bar will be updated to eliminate the angle.*

2. **Holding Position Sign for Taxiway/Runway Intersections (S-01, S-02, S-03, S-04, S-09, S-10, S-13, S-14, S-15, S-19, S-20, S-22, S-23, S-24, S-25, S-47, S-48, S-51, S-57, S-60, and S-61)** do not meet the color requirements of AC 150/5340-18.
  - a. These signs must have white inscription with a black outline on a red background.
  - b. The sign at each runway end on Taxiways A and E, contain the inscription only for the takeoff runway, while all other signs contain both runway designation numbers. This is consistent with the standards in most applications. However, at runway ends where there is an operational need, such as in the situation where a taxiway crosses the runway at the threshold, both runway designation numbers should be used.

*The issue noted by the FAA in the plans was with the plotter and will be corrected to better reflect accurate colors. All sign legends will be submitted for approval prior to ordering. The plans will be updated to include full Runway inscription and the hold bar will be updated to eliminate the angle*

3. **Inbound Destination Sign (S-28, S-30, S-33, S-34, and 46)** – There are numerous “PARKING” inbound destination signs along Taxiway Z and on Taxiway connectors between Taxiways Y and Z. The purpose of these signs is unclear as these signs point to multiple locations on the airport. Limit the number of these signs to directing transient pilots to parking areas and eliminating those signs that direct based aircraft to parking areas.

For consistency, the sign “PARKING” for a standardized location description. (Reference: AC 150/5340-18G, Paragraph 1.10.2.) Accepted names and abbreviations used for inbound destinations are:

- 1) APRON - general parking, servicing, and loading areas
- 2) RAMP - synonymous with APRON
- 3) FBO - fixed-base operator

Additionally, major destination areas are usually shown on inbound destination signs. Therefore, the surface painted “RAMP” markings along Taxiways Yankee and Zulu are not required per the

standard. Sign inscriptions should be consistent; do not use two different inscriptions for the same area (e.g. RAMP and PARKING)

In this example, there are surface painted markings in numerous locations that state RAMP, and yet the signage, pointing in the same direction, states PARKING.

*The destination signage and surface markings will be updated to utilize the same phraseology.*

- 4. Boundary Sign (S-01, S-02, S-03, S-04, S-9, S-10, S-13, S-14, S-15, S-19, S-20, S-21, S-23, S-24, S-25, S-47, S-48, S-51, S-57, S-60, and S-61).** The sign plan currently depicts RSA/OFZ boundary signs at all runway exit locations. This sign is typically used only at controlled airports at the request of the airport traffic control tower (ATCT). The County should consult with local Air Traffic Control to determine if these signs are necessary at all locations. (Reference: AC 150/5340-18G, Paragraph 1.7.1.)

*The County and the consultant will coordinate with ATC on this sign. If not required, the boundary panels will be replaced with blank panels.*

## **B. System-Wide Corrections**

- 1. Location Signs.** Ensure that all location signs meet the requirement of AC 150/5340-18, and do not include extra lines in the sign panel. The location sign has a yellow inscription with a yellow border on a black background. The yellow border is set in from the inner edge of the sign to yield a continuous black margin.

*All sign legends will be submitted for approval prior to ordering.*

- 2. Taxiway Nomenclature Convention.** The current taxiway designations at RHV are not consistent with the taxiway designations guidelines and standards. The taxiway system should be re-designated as part of this project since most if not all existing airfield signs are being replaced.

Please reference the guidelines and standards in AC 150/5340-18 when developing or revising an airport signage plan. Per the standards, a runway with a parallel taxiway, use alphanumeric designators at the entrance and exit taxiways located at the ends and along the runway.

Apply an increasing, sequentially numbered pattern from one runway end to the other runway end, such as A1, A2, A3, A4, A5. For example, Taxiway Z should be changed to Taxiway A; Taxiway Y to Taxiway B; and all connecting taxiways be re-designated, from north to south, as B1, B2, B3, etc. (Reference: FAA Advisory Circular (AC) 150/5340-1G, 1.4)

*While this is outside the scope of the original plan, which was designed to address the deficiencies identified by the FAA and Caltrans, the County agrees that this is a good time to rename the intersecting taxiways Updated plans will be submitted depicting the updated nomenclature.*

## **3. Missing Signage Corrections**

- a) Direction Signs (S-26, S-28, S-30).** The plan depicts direction signs for Taxiway Golf and Foxtrot, however, the published airport diagram (21 Apr – 19 May 2022) does not identify these taxiways.

*Since G and F are taxilanes, vertical signage will be eliminated and replaced with appropriate surface painted signs*

- b) The sign plan does not include any taxiway direction signs preceding taxiway-taxiway intersections for northbound and southbound traffic on Taxiway Y. (Reference: AC 150/5340-18G, Paragraph 1.8., 1.8.1, and associated Figures) such as:
1. Taxiway Alpha, Yankee, and Zulu intersections. As a pilot or vehicle operator exits Runway 13L-31R onto Taxiway Alpha there is no visual cue to indication the direction of Taxiway Yankee and Zulu.
  2. The intersection of Taxiway Charlie and Yankee is missing a location sign.
  3. Taxiway Echo, Yankee, and Zulu intersection. As a pilot or vehicle operator exits Runway 13L-31R onto Taxiway Echo there is no visual cue to indication the direction of Taxiway Yankee and Zulu.

*There is insufficient space to add signage in these infields. Surface markings are currently in place to address this. County is open to suggestions from FAA staff.*

- c) The sign plan does not include taxiway direction signs preceding the taxiway-taxiway intersections for northbound and southbound traffic on Taxiway Z at its intersections with Taxiways D or B. (Reference: AC 150/5340-18G, Paragraph 1.8., 1.8.1, and associated Figures)

*There is insufficient space to add signage in these infields. Surface markings are currently in place to address this. County is open to suggestions from FAA staff.*

- d) There are a large number of existing surface painted signs at RHV. It is unclear, from the sign plan drawings, whether those signs will remain following the signage project. While we understand that the subject project does not currently include any new markings, it would be helpful to see all signage, including surface signage that will exist following the project to insure that no conflicts will exist.

*The current project does not include a full signage inventory and does not eliminate any surface painted signs. Any surface painted signs that are added or changed will be included in the plan specifications.*

#### **4. Vehicle Roadway Signs**

- A. There appears to be an access road at the following locations, however, there is no depiction of vehicle roadway signs; this is non-standard:
- 1) west of Taxiway Charlie leading to Runway 13R;
  - 2) at Taxiway Delta, leading to/from the segmented circle; and
  - 3) at 13R threshold markings to/from what appears to be a perimeter road
- B. Install standard highway stop signs on vehicle roadways at the intersection of each roadway with a runway or taxiway. At airports with ATCT, unless there is a letter of agreement with the air traffic control (ATC) allowing drivers to cross taxiways without clearance, install "DO NOT PROCEED CONTACT ATC" signs on vehicle roadways instructing the driver not to

proceed without clearance from ATC. Specifically, we direct your attention to the perimeter road that routes through the approach area for runways 31L and 31R.

Please review AC 150/5345-44, *Specification for Runway and Taxiway Signs*) for additional information about unlighted mandatory instruction signs to be installed to help vehicle operators maintain their situational awareness when approaching runways and provide a visual reference to aid in identifying them.

*Vehicle roadway signs will be added in an update to the plan specifications.*

## AIRFIELD MARKINGS

- 1) **Hold lines are in non-standard locations.** There are parts of the hold lines on Taxiways A and E between the runways that are less than 125 feet from the runway centerline. These hold lines and associated hold position signs need to be realigned/relocated to comply with the standard. At RHV, the minimum standard for runway centerline to hold line distance is 125 feet. This distance is necessary to keep aircraft out of the Runway Obstacle Free Zones (ROFZ). The ROFZ clearing standard does not allow aircraft and other object penetrations, except for locating frangible NAVAIDs in the OFZ because of their function. We also note that the current configuration, and that shown on the project plan, are not consistent with the Airport Layout Plan (ALP) signed by the County and approved by the FAA in 2008. The 2008 ALP shows the hold lines in the proper configuration. (Reference: AC 150/5300-13B, Paragraph 3.31).

*Hold bars will be adjusted to remove the angle; solid taxiway edge line and shoulder markings will be added to eliminate the use of large expanse of pavement.*

- 2) The plan does not include all markings. Please redraft the plan sheets and include all requisite markings. For example: the enhanced taxiway centerline markings are not depicted at any of the taxiway/runway hold marking locations. These provide supplemental visual cues to alert pilots of an upcoming runway holding position marking in order to minimize the potential for runway incursions. To reinforce situational awareness before entering a runway, this safety enhancement is only used on those taxiways that directly enter a runway.

*Enhanced centerline markings will be added to the plan specification.*

- 3) The existing displaced threshold markings are not to standard. The displaced threshold must include the appropriate marking scheme (i.e. runway threshold bar and arrowheads with and without arrow shafts).
  - a. To ensure standardization, the diagram should identify all markings in the appropriate colors, as specified in the current version of AC 150/5340-1, *Standards for Airport Markings*.

*The existing displaced threshold markings and arrowheads appear to comply with 150/5340-1M. More information is needed from the FAA to determine how the existing markings are non-standard.*

- 4) **Taxiway Edge Marking.** Taxiway edge markings are not in compliance with FAA standards. The dashed taxiway edge marking (at **S-25, S-037, S-47, and S-61**) is used where there is an operational need to define the edge(s) of a taxi route on or contiguous to a sizeable paved area that permits pilots to cross over this surface marking. However, this marking should not extend on the runway side of the surface holding position marking. As depicted it sends an inconsistent message to the pilot. Ensure all markings are consistent with the current versions of AC 150/5340-1.

*Taxiway edge markings will be updated.*

- 5) **Surface Painted Taxiway Markings.** Surface painted markings are required. Throughout the plan, there appears to be Taxiway Yankee and Zulu surface painted markings but no above ground Taxiway Zulu direction sign leading out the apron area at Taxiways Bravo, Charlie, Delta, and Echo. The surface painted marking is required where it is not possible to provide a taxiway direction sign in accordance with AC 150/5340-18. Optionally, it may be installed where operational experience has indicated that its presence at a troublesome taxiway intersection can assist flight crews in better ground navigation.

*There is insufficient space to add signage in these infields. Surface markings are currently in place to address this.*

- 6) **Eradication of old markings not implemented according to FAA standards.** Google image appears to show the intermediate hold lines at the 13L run-up area, which extended at one time south of the runway hold lines, to have been “removed” with black paint. However, **drawing E2.1** of the plan set shows them marked/planned.

The FAA does not endorse painting over the old markings because this inadequate practice merely preserves the old marking which, in some cases, has misled pilots and required extra maintenance. These should be removed from plans and, correctly removed from the pavement. Reference 5340-1M, paragraph 1.3.6: Removal of Markings.

Pavement markings that are no longer needed are not to be painted over but instead are to be physically removed. Physical removal of markings is achieved by water blasting, shot blasting, sand blasting, chemical removal, or other acceptable means that do not harm the pavement. The physical removal of any old marking(s) must include a predetermined larger size and shape of a removal area that encompasses the old marking(s) and by grouping adjacent markings together into a larger rectangular removal area. The rationale behind this practice is to eliminate the continued visual appearance of the removed marking(s).

*Water blasting or another approved method will be used to fully remove the old markings at the 13 runup.*

- 7) **Runway Incursion Mitigation (RIM) and Hot Spots.** The FAA has identified several RIM and Runway Incursion Hot Spots on RHV that have contributed to a number of surface events.

The FAA takes the position that it is appropriate for the County to propose how it plans to address the RIM and runway incursion Hot Spot locations as part of the signage plan project.

*County will propose green painted islands as discussed with FAA during meeting of FAA and County Staff on July 14, 2022.*

## **AIRFIELD LIGHTING**

- 1) The Runway 13R and 31L displaced threshold lights do not meet standards. The threshold lights are not located correctly in relation to the Displaced Threshold Bar. The lights are currently aligned with the trailing edge of the threshold bar and should be aligned with the leading edge of the threshold bar. Consideration should be given to correcting this non-standard condition by relocating the lights as part of this signage and electrical project. An alternative to relocating the lights is to remove and adjust the location of the threshold bar and all associated runway markings. (Reference: AC 150/5340-1M, Paragraph 2.9.1.3 and AC 150/5340-30J, Figure A-5, Note 6 and Paragraph 2.3.2.2.2.)

*This was addressed by moving the lights to the appropriate position in the bid contract documents.*

## ATTACHMENT B

### Recommendations and Reminders

1. The plan should identify signs in the appropriate colors, as specified in the current version of AC 150/5340-18, *Standards for Airport Sign Systems*. Signs should be graphically depicted on the plan in close proximity to their locations on the airfield.

*The sign data table provides the exact location of the signs. Legends will be updated to more accurately reflect the AC. Intent is for the contractor to submit all sign legends for approval prior to ordering any signs.*

2. Canted Signs (**S-14, S-37 and S-47**). In reference to the specified signs, we recommend these signs be canted toward the associated taxiway centerline to the extent standards permit, to align angle of view for approaching aircraft, also realizing they serve aircraft within the run-up area as well as on centerline.

*This will be further reviewed. Several of the canted sign situations are eliminated by addressing other comments.*

3. Runway Edge Lights and REILs: We recommend that the REILs and edge lights be kept on separate circuits.

*The runway edge lights and REIL's are shown on separate circuits.*

4. Taxiway Z: We recommend the SCC consider installing lighting on Taxiway Zulu to replace existing reflectors.

*Due to cost constraints, reflectors are currently the most viable option.*

5. Verify that the County has installed roadway signs located near a runway outside the runway safety area (RSA) and clear of the obstacle free zone (OFZ) surface. See AC 150/5300-13, *Airport Design* for RSA and OFZ surfaces and dimensions.

*The need for roadway signs will be further analyzed and addressed where necessary.*

6. Verify that the signs are designed in accordance with AC 150/5300-13, for TOFA dimensional standards.

*All signs are designed in accordance with AC 150/5300-13B and 150/5340-18G*

7. To increase vehicle driver situational awareness, a type L-858Y, size 1, style 4, taxiway direction sign may be installed with the STOP/DO NOT PROCEED CONTACT ATC sign at locations where a vehicle service road intersects a taxiway.

*The need for roadway signs will be further analyzed and addressed where necessary*



8. The addition of surface painted hold position signs should be considered by the County as an additional strategy to reduce Runway Incursions at RHV.

*While surface painted hold position signs are not required for non-part 139 airports, the County has elected to install runway guard lights to reduce the likelihood of a runway incursion.*

## **ATTACHMENT C**

### **Construction Safety Phasing Plan Comments**

Sheets 5,6,7,8 - Critical Areas Construction Phase 1 - Contractor Access onto Airfield - Construction vehicles will be accessing through the gate near the University. Will this gate be standing open, unattended?

*The gate will not be unattended. The contractor will be required to secure the gate or utilize gate guards.*

Sheet 8 - Legend/Drawing - Legend Mismatch - Legend shows hash marks, but work in the field is indicated as a stair-step depiction

*The hatch markings will be updated accordingly and addressed in the plan update.*

General Comments - Tenant Notification - Construction Activities and Schedule - Has this been accomplished? Tenant notification regarding the plans for construction vehicles being on the airfield and certain runways and taxiways being closed intermittently is an important safety initiative.

*Airport staff has communicated with airport users multiple times about the upcoming project. Notification with dates and times will occur after the project is awarded and the contractor provides a project schedule. This typically happens during a pre-construction conference.*