Notice of Rescission of FAA Order 1050.1F, Availability of FAA Order 1050.1G, Request for Comments

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Thank you for the opportunity to submit this comment regarding the FAA's Request for Comment on the Notice of Rescission of FAA Order 1050.1F and Availability of FAA Order 1050.1G (Docket ID: FAA-2025-1571). The Aviation-Impacted Communities Alliance (AICA) represents over 90 groups nationwide, all of which actively advocate at both local and national levels for effective measures to reduce aviation noise and its health impacts on communities.

FAA Order 1050.1G presents an opportunity to modernize environmental review procedures, align with recent legal changes, and improve efficiency—while preserving the integrity and transparency of the NEPA process. NEPA regulations emphasize the need for "early and meaningful public involvement,"[1] and FAA's own Community Involvement Manual commits to ensuring that the public is "informed, involved, and heard in decisions that affect them."[2]

However, FAA Order 1050.1G falls short in practice. It enables significant decisions to move forward without public disclosure and engagement, relies on outdated noise metrics that do not represent the lived experience of communities, warrants categorical exclusions for all new eVTOL procedures despite the unknown and emerging eVTOL environmental impacts, and enables the FAA to exercise its authority without procedural safeguards that protect public interests. The agency's handling of flight procedure changes, noise significance, operations involving eVTOL aircraft**,** and disproportionate impacts on vulnerable populations reflects systemic flaws that must be addressed to restore public trust and fulfill NEPA's purpose.

We urge the FAA to consider the following 10 key issue areas (not in priority order), which are summarized below. Detailed discussion and specific recommendations for each issue are provided in the full text that follows this list.

1. Current Noise Significance Threshold Continues to Underestimate Community Impact
FAA's continued reliance for decision making purposes on the DNL metric and the DNL 65 as a significance threshold, for airspace or airport changes including airport expansions, fails to reflect real-world noise exposure and disregards federally sponsored research on community annoyance, including the results of the Neighborhood Environmental Survey that showed that many more people are annoyed by aircraft noise at much lower levels than 65 dB DNL.

[1] 40 C.F.R. § 1501.9 – "Public involvement," *Council on Environmental Quality Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act*, 85 Fed. Reg. 43304, codified at 40 C.F.R. §§ 1500–1508 (effective July 16, 2020)

[2] Federal Aviation Administration. *Community Involvement Manual.* Version 1.0, April 2021. U.S. Department of Transportation. Available at: https://www.faa.gov/sites/faa.gov/files/2021-04/FAA_Community_Involvement_Manual_V1_0.pdf

2. Systemic Problems with FAA's Use of CATEX Undermine NEPA Safeguards
CATEX determinations proceed without public notice or access to Initial Environmental Reviews (IERs) before final decision, thus foreclosing input on extraordinary circumstances such as unusual public controversy and allowing disputed procedure changes (new or amended procedures) to advance unchecked.

3. Continued Lack of Community Engagement Undermines NEPA Integrity
While the FAA has acknowledged concerns and introduced internal initiatives, affected communities continue to face barriers to meaningful participation in environmental processes—particularly in CATEX-level actions, where public notification and input are not required and therefore rarely provided. Discretionary interpretation of stakeholder feedback and limited transparency in how their perspectives are documented further reduce the opportunity for communities to inform CATEX determinations or raise concerns that may constitute extraordinary circumstances. Across CATEX, EA, and EIS processes, communities are also constrained by the absence of information and analysis that reflect the lived experience of those affected.

4. Categorical Exclusion (CATEX) for eVTOL Procedures is Premature and Inadequate
FAA introduces a new categorical exclusion for eVTOL flight procedures, despite their novel characteristics and unknown or unresolved questions about environmental impacts, including the fact that large volumes of eVTOL operations will result in noise corridors at altitudes below 3000 ft over densely populated residential communities.

5. Marginalization of Vulnerable Populations and Cumulative Impacts
Moving this topic to Order 1050.1G Appendix A weakens its status and invites inconsistent treatment—even as NEPA requires a full accounting of disproportionate and cumulative effects.

6. Inadequate Role of Noise Monitoring in NEPA Review
FAA minimizes the role of noise monitoring, yet such data—especially where AEDT is known to underestimate impacts—should be used to validate models, improve accuracy, and disclose uncertainty in NEPA documents.

7. Risks of Superficial Review from Page and Time Limits
Strict limits on the length and timeline of NEPA documents could result in omitted analyses unless clear standards for content and disclosure are defined and consistently applied.

8. Statutory CATEX Criteria for 'Limited Federal Assistance' Projects May Mask Significant Impacts Through Project Packaging
While statutory thresholds aim to streamline review for smaller projects, they may enable significant impacts to escape scrutiny. Individually modest projects can still trigger extraordinary circumstances, and related actions may be segmented to ensure that impacts fall below significance thresholds when actions are implemented incrementally. Without clear safeguards, these exclusions risk masking the true environmental footprint of federally supported projects.

9. Removal of Expiration Timeframes for NEPA Documents Risks Perpetual Use of Outdated Environmental Analyses

FAA Order 1050.1G appears to eliminate the prior three-year expiration for EAs, EISs, and CATEX determinations. Section 3.2a allows continued reliance on older documents if they "meet the standards," but this vague language may permit indefinite use of outdated analyses. Without a defined validity period, FAA decisions risk relying on obsolete noise models or policy assumptions, undermining the public interest in using current science and metrics.

10. Health Impacts Excluded Despite Extensive Research, Including FAA's Own

FAA Order 1050.1G does not require meaningful evaluation of health impacts from aviation noise—even though peer-reviewed research, including FAA-funded studies, has linked noise exposure to cardiovascular disease, sleep disturbance, and cognitive effects. This omission undermines the scientific credibility of environmental assessments and fails to protect public health.

As previously noted, a detailed discussion and specific recommendations for each issue are provided below.

Respectfully submitted,

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CC:
Members of Quiet Skies Caucus
Members of the Aviation-Impacted Communities Alliance

Expanded background and detailed recommendations for each issue follow.

KEY ISSUES AND RECOMMENDED ACTIONS (*not in priority order*)

1. Current Noise Significance Threshold Continues to Underestimate Community Impact

The continued reliance on the Day-Night Average Sound Level (DNL) metric and the DNL 65 dB as a significance threshold for noise impacts under FAA Order 1050.1G fails to reflect the lived experience of aviation-impacted communities and does not align with recent findings from federally sponsored research and oversight reports, including but not limited to the Neighborhood Environmental Survey. Although the FAA has stated that "community concerns regarding noise have and continue to be a primary factor underlying the FAA's noise-related policies," it persists in using DNL 65 to interpret significant impact—even as complaints have surged and lawsuits have proliferated in response to recent airspace changes.[3]

The FAA's own *Neighborhood Environmental Survey* (NES), published on January 13, 2021, concluded that community annoyance from aircraft noise occurs at much lower levels than previously assumed. The NES results showed that approximately two-thirds of people were highly annoyed by aircraft noise at or

[3] D.E. Yaplee, C.L. Christiansen, M.J. Fremont, *Realizing a 21st Century Noise Policy*, presented at NoiseCon 2024, New Orleans, LA, June 10-12, 2024

below DNL 60 dB —a level far below the 65 dB threshold still used in NEPA documents to assess significant impacts.[4] DNL 65 corresponds to 12.3% of people highly annoyed on the Schultz curve from the 1970's; by contrast, extrapolating the same 12.3% annoyance level to the new, national NES curve yields a corresponding DNL value of approximately 46 dB.[5] This nearly 20 dB disconnect between the two DNL thresholds highlights that DNL 65 is not only outdated, but also significantly underrepresents the true extent of real-world noise impacts.

The Government Accountability Office (GAO) echoed these findings in its 2023 report *Aircraft Noise: FAA Should Improve Information on Neighborhood Effects of Aviation Noise* (GAO-23-105201), which concluded:

- "The DNL metric does not convey information about the number of times aircraft are heard—a primary driver of annoyance—and, as such, may not adequately reflect the experience of individuals exposed to aviation noise."
- "Communities often object to FAA's noise analysis methods because they do not believe the 65 DNL threshold accurately represents their experience with aviation noise."
- "Without using supplemental metrics to capture the number and timing of noise events, FAA's analyses may not be providing a complete picture of aviation noise exposure."[6]

As summarized in *Realizing a 21st Century Noise Policy*, the consequences of this gap between modeled thresholds and lived experience are profound:

- "One very loud event or many less loud events can lead to the same DNL number... The example also dispels the common myth that decreasing the 65 dB DNL threshold by 5 to 10 decibels would represent the significant impacts of most overflight communities. It won't."[7]

Despite these findings, FAA Order 1050.1G continues to apply DNL 65 as the determinant for assessing significance under NEPA, particularly in evaluating whether extraordinary circumstances exist. As a result, impacted communities are frequently told that no significant environmental impact exists—even when airspace changes lead to hundreds of new and loud overflights per day at low altitudes. While FAA has conducted follow-up analyses on the NES data, some methodological choices—such as selectively applying penalties to certain metrics or limiting the scope of airport evaluations—have raised concerns about analytic balance. A more objective and transparent approach is needed to fully reflect the implications of the NES findings and support evidence-based policy reform.[8]

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[4] FAA, *Neighborhood Environmental Survey*, Final Report, January 2021, p. 16. Available at https://www.faa.gov/sites/faa.gov/files/2022-08/Neighborhood-Environmental -Survey-Report-Jan2021.pdf

[5] FAA, *Neighborhood Environmental Survey*, Final Report, January 2021; extrapolation of NES national curve shown in Yaplee et al., *Realizing a 21st Century Noise Policy*, NoiseCon 2024

[6] U.S. Government Accountability Office, *Aircraft Noise: FAA Should Improve Information of Neighborhood Effects of Aviation Noise* (GAO-23-105201), March 2023

[7] D.E. Yaplee, C.L. Christiansen, M.J. Fremont, *Realizing a 21st Century Noise Policy*, presented at NoiseCon 2024, New Orleans, LA, June 10-12, 2024

[8] Yaplee, D.E., *Realizing a 21st Century Noise Policy*. Presented as part of the session "FAA Noise Policy Review and Aircraft Noise Advisory Committee," Aviation Noise & Emissions Symposium, March 10–12, 2025, Las Vegas, NV

Until more representative metrics and thresholds are incorporated—such as N-Above, or N-Above-Ambient metrics—environmental reviews will continue to understate actual impacts. FAA must adopt an approach that reflects what people actually experience on the ground, including the count of events, ambient noise considerations, and timing of noise events, and must incorporate the undisputed findings of the NES results.

Recommendation:

- Discontinue interpreting DNL 65 as the primary determinant of NEPA significance;
- Mandate the inclusion of new decision-making metrics, such as event counts (e.g., N-Above) and N-Above-Ambient;
- Incorporate the findings of the NES, GAO, and independent research in reforming noise assessment practices;
- Adopt tiered or location-sensitive thresholds that better reflect variations in community sensitivity, ambient conditions, and cumulative exposure from multiple procedures and airports;
- Ensure that any follow-up analysis of NES data is conducted transparently and objectively, avoiding methodological choices that dilute or mask real world environmental impacts.

2. Systemic Problems with FAA's Use of CATEX Undermine NEPA Safeguards

The FAA's current approach to Initial Environmental Review (IER) for CATEX determinations lacks sufficient transparency and public involvement, raising concerns about alignment with NEPA's intent and the defensibility of the review process. Without notification or comment opportunities, communities cannot raise concerns that might trigger an extraordinary circumstances review, including but not limited to unusual public controversy.

The process also gives disproportionate weight to modeled DNL 65 levels, may mislabel projects as "community requests", and assumes that procedure changes without increased airport operations have no cumulative impact. Additionally, FAA's discretionary interpretation of undefined terms, significance thresholds that are outdated and fail to reflect real-world impacts, use of misleading language, and scoping limitations allows for determinations that undermine transparency and public protections. These procedural and analytical flaws as well as the lack of transparency collectively undermine NEPA's intent to ensure informed, inclusive, and accountable environmental decision-making.

2A. Lack of Early Opportunity to Identify Extraordinary Circumstances Undermines NEPA's Safeguard

FAA Order 1050.1G states that an action may not be categorically excluded if it involves Extraordinary Circumstances (EC), such as "**unusual public controversy**" over environmental impacts (§5.1). Although a Categorical Exclusion (CATEX) applies only to actions that do not, individually or cumulatively, have a significant environmental impact, the FAA is still required to evaluate the potential for extraordinary circumstances—even at this preliminary level of review.

Yet in practice, especially for flight procedure changes, the FAA as a matter of practice finalizes CATEX determinations without public notice or access to the Initial Environmental Review (IER) before final decision. This prevents affected communities from raising concerns that could inform the EC analysis or trigger a higher level NEPA review.

For example, in the case of the PIRAT procedure IER, the FAA marked community support as "UNKNOWN" and recorded "No" objections in the IER—even though no outreach had occurred.[9] This designation was technically accurate only because the public had no way of knowing the proposal existed. Without notice, the public cannot object—and without objections, the FAA concludes there is no controversy. This creates a regulatory Catch-22 in which valid concerns are excluded from the record, the EC provision is never triggered, and a misleading IER is completed.

2B. A Case Study in Community Exclusion

False Signal of Opportunity to Comment

In late 2018, the San Francisco Bay area community became aware of a new arrival procedure only after it appeared on the FAA's Instrument Flight Procedures (IFP) Gateway, with a posted comment deadline of November 13. Believing this was the proper channel for input, community members submitted comments through the IFP Gateway. At the November 8, 2018 SFO Roundtable meeting—just five days before the deadline—FAA's Senior Advisor for Public and Industry Engagement informed attendees that the IFP Gateway was *not intended* for public environmental comments. It was a tool for aeronautical experts to provide comments and track procedural changes.

FAA representative stated, "we are going to be changing the gateway so that you get a notification when you go in… that says, please do not leave environmental comments. This is not part of NEPA," and added, "we're going to be working on the gateway to make sure that it… can only be accessed by people who have procedures who are in the gateway." FAA further noted that procedures qualifying as CATEX "already [have] no environmental impact," and pointed to "consolidated tracks over the water" and "raising the waypoint to actually 2,000 feet" as justification for the new procedure.[10]

No Disclosure Despite the Appearance of Engagement

Despite this appearance of engagement, there was no indication that the IER had already been finalized—rendering the November 13 deadline effectively meaningless for the public. Nor was there "working with roundtables, updating people on procedures"[11] as claimed. The SFO Roundtable Chair had previously written to the FAA stating that the newly proposed RNAV procedure "comes as a surprise," despite ongoing discussions with the FAA about noise concerns in the area. The letter noted that FAA staff had attended recent Roundtable meetings and pre-meeting calls but never mentioned the procedure under development.[12]

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[9] See Appendix A

[10] Meeting audio: http://sforoundtable.org/twg20181108/

[11] Ibid.

[12] See Appendix B

Public Concerns Ignored, Despite Evidence of Opposition
Four neighboring cities—Palo Alto, East Palo Alto, Mountain View, and Los Altos—sent letters of concern to the FAA after seeing the IFP Gateway posting, yet the FAA did not conduct outreach to these or other potentially affected communities.[13] Nor did it revisit the environmental review, even though technical delays pushed the implementation back by many months, providing ample time to do so.

Lack of FOIA Responsiveness Undermines Legal Recourse
The City of Palo Alto filed a FOIA request seeking documentation on the planned procedure but received no response within the 60-day window tied to the IFP Gateway posting—the period during which legal action must be filed to challenge a final agency decision. They also sent additional correspondence requesting information and clarification but received no reply.

Lack of Consultation with Airport Proprietor and Mischaracterization of Airport Proprietor Support for Project
The FAA stated in item 3 of the Initial Environmental Review (IER) that the new procedure was supported by the airport proprietor and users. This statement was inaccurate. San Francisco International Airport (SFO) later clarified that it did not support the project and had not been consulted. Had SFO been consulted, staff would have brought the matter to the SFO Roundtable and addressed it during the regular FAA–SFO Roundtable meetings in which SFO staff participated.

This is a clear example of the FAA mischaracterizing organizational support without obtaining written confirmation or ensuring a full understanding of what that support entailed. Future IERs must clearly identify the individual providing such confirmation and retain dated documentation, along with sufficient context to ensure that any expression of support is fully understood and accurately represented. Although the FAA identified discussions with the airport or its inclusion in broader forums as a sign of support, SFO was not a formal member of the Full Working Group (FWG) and did not concur with the project. Being informed or present does not constitute endorsement without traceable, auditable sign-off. The FAA's framing does not distinguish between awareness and genuine endorsement and does not ensure that any support is grounded in a clear, fully understood context—undermining transparency and risking misrepresentation of stakeholder input.[14]

Mislabeling of Project as "Community Request" Leads to Noise Shifting Without Consent
The FAA stated in the Initial Environmental Review (IER) that the new procedure was "Community Requested,"[15] although documentation indicates the specific changes did not reflect the original community input. For example, the 2016 Select Committee Report[16] shows the community did not request the elimination of Oceanic Tailored Arrivals, implementation of a shared Optimal Profile Descent (OPD) for SFO and OAK Oceanic arrivals, modification of the Woodside VHF Omnidirectional Range Tactical Air Navigation (VORTAC), or flight path shifting noise from one community to another, including changes in the default heading after the Woodside VOR.

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[13] See Appendix C
[14] See Appendix D
[15] See Appendix A
[16] https://www.paloalto.gov/files/assets/public/v/1/public-works/palo-alto-airport/airplane-noise/2016-11-17-final-select-committee-report.pdf

While a related concept had been proposed by a Roundtable member city several years earlier, the FAA's new procedure differed substantially in scope and impact, introduced new burdens to multiple communities, and was never returned to the SFO Roundtable or any community for review or validation. The resulting noise shift directly violated the SFO Roundtable's Memorandum of Understanding, which prohibits member cities from proposing changes that transfer noise burdens.[17] The Roundtable would not have supported a proposal that contradicted this principle, and the FAA's characterization bypassed both the intent of the original suggestion, and the safeguards designed to prevent such outcomes.

The FAA subsequently stated that it used community input as the basis for the changes, yet the final procedure departed significantly from the original idea and was implemented without consulting either the original requester or the newly affected communities.[18] This underscores the need for FAA to obtain and retain written confirmation—with clear context and from a named individual or organization authorized to speak on the community's behalf—before labeling a procedure as community requested. Any attribution of community support should be auditable, traceable, and based on a fully informed understanding of what is being endorsed.

Questionable Assumption That No Change in Operations at Airport Means No Impact to Communities

In the example Initial Environmental Review (IER), the FAA stated that "An increase in operations is not expected" because the total number of airport operations would not increase.[19] This conclusion overlooks critical issues: while airport-level operations may remain steady overall, the usage of various procedures changed as a result of the new procedure (more aircraft used the new RNAV procedure), and the procedure change shifted aircraft noise to newly impacted communities, increasing the number of overflights they experienced.

The assumption that an unchanged number of operations for the airport equates to no environmental impact fails to account for the effects of noise redistribution amongst communities. Introducing RNAV procedures and shifting flight paths can introduce new burdens for communities previously unaffected—or worsen conditions for those already exposed to other procedures or vectoring paths. Labeling such changes as environmentally neutral dismisses legitimate community concerns and obscures the real-world consequences of procedural modifications.

This assumption reveals a notable inconsistency with the FAA's longstanding position that reverting to pre-NextGen procedures or new proposed procedures to mitigate noise is not viable because it would

"move noise." Section 787 of the FAA Reauthorization Act of 2024 ("Reducing Community Aircraft Noise Exposure")[20] affirms this concept, stating the FAA shall take action to reduce noise only if it "does not result in the relocation of noise burdens from one community to another."

[17] See Appendix B
[18] See Appendix D
[19] Ibid.
[20] FAA Reauthorization Act of 2024, Pub. L. No. 118-63, 138 Stat. 101 (2024)

Section 787 formalizes a principle the FAA has long invoked to reject noise mitigation proposals that would shift impacts. Yet in this case, the FAA's own analysis acknowledges that noise is being moved—but proceeds anyway, undercutting the very rationale it helped enshrine.

If the FAA were consistent, changes that restore pre-NextGen conditions could arguably qualify for approval—since the total number of operations would remain constant. The FAA's selective application of the environmental impact standard allowed the PIRAT procedure to relocate noise without acknowledging the resulting burden.

Misleading Statement of Community Consultation

The FAA's IER stated that the community had been "notified, consulted, or otherwise informed," referencing the 2016 Select Committee process. But the SFO Roundtable Chair—who had served on the Select Committee—explicitly contradicted this in her letter to FAA.

This example case study highlights a critical gap in the CATEX process:

- FAA had no public notification mechanism for CATEX-level procedures, and the only visible posting was on a technical platform—the IFP Gateway—that was not clearly identified at the time as inaccessible to the public for environmental comment (a disclaimer was added later);
- FAA attended Roundtable meetings but failed to inform members that the procedure was under development;
- FAA claimed the procedure originated from the community, though the proposed version diverged from the original input from a Roundtable member and shifted noise—contrary to Roundtable safeguards;
- FAA marked the community as "consulted" based on a process whose participants said they were not informed;
- FAA mischaracterized airport proprietor support, despite SFO later stating they were not consulted and did not support the procedure;
- FAA declined to revisit the IER, even after receiving objections from multiple cities and despite on-going procedural delays and revisions posted on the IFP Gateway that postponed implementation by many months.

2C. Additional Structural Barriers to Transparency and Public Participation

Further compounding the problem, FAA Order JO 7400.2R (effective February 20, 2025) states that *every effort must be made* to notify aviation stakeholders of informal airspace meetings, but there is no requirement to notify the general public—and official transcripts or minutes are prohibited. Although these meetings solicit technical input on navigable airspace use, they do not include public notice or invite broader community comment.

This exclusion of the public from both the process and the record reflects a systemic absence of transparency, accountability, and meaningful community inclusion—undermining the goals of NEPA.

Recommendation:

- Define clear criteria for labeling a project as "Community Requested," and require that any substantive change in impacts (e.g., shifting noise over new communities)—particularly where the implemented procedure differs meaningfully from the original community proposal—be

reviewed not only with the original requester but also with newly affected communities during the Initial Environmental Review (IER) process;

- Document the Airport Proprietor's name and response in the IER with a dated, written statement by a named individual indicating their support—or lack thereof—following full disclosure of the proposal and its community implications prior to finalizing the IER;
- Establish a formal public notification process for proposed actions that may qualify for a CATEX. Notification must begin early in IER development and include preliminary information—such as the proposed action, affected environment, and anticipated impacts—no later than 60 days before the IER is finalized;
- Recognize that redistribution of noise (caused by new RNAV and RNP procedures or other airspace changes) —regardless of no changes in total number of airport operations—may constitute an environmental impact, and that such shifts should be evaluated for potential extraordinary circumstances; and
- Provide early public notices in order to allow affected communities to; and
    - Raise concerns that may constitute extraordinary circumstances under NEPA
    - Provide input that informs the environmental analysis
- Ensure the IER accurately reflects real-world community impacts.

3. Continued Lack of Community Engagement Undermines NEPA Integrity

FAA Recognition of Community Engagement Shortfalls Has Not Led to Meaningful Change
FAA has long acknowledged community concerns about its lack of engagement—both publicly and through advisory bodies—yet has failed to address the core problem: communities remain excluded from community engagement overall and CATEX-level decisions. In 2018, an FAA representative told local stakeholders: "We heard you. We heard your request for engagement. We're going to come out and share what we're doing. The engagement fell away—we're trying very, very hard to re-engage, to have these conversations, to be participating. That's why I flew up here today."[21] In 2021, during a presentation to the NextGen Advisory Committee (NAC), the agency reiterated its awareness by listing numerous internal initiatives—new manuals, regional staff roles, and updated processes.[22]

But these measures have not fixed the fundamental problem: the public still has no formal notification or input role in CATEX determinations, even when flight procedure changes may produce significant impacts. FAA's improvements have focused on internal workflows, rather than on ensuring meaningful public involvement rights for affected communities.

In 2023, the Aviation-Impacted Communities Alliance (AICA) presented the FAA Community Engagement Scorecard (FAACES) at the Aviation Noise & Emissions Symposium. A survey, conducted in response to the FAA's assertion that community engagement had improved, gathered input from 47 community groups across 13 states and compared experiences before 2020 to those in 2020, 2021, and

[21] Meeting audio: http://sforoundtable.org/twg20181108/

[22] FAA NextGen Advisory Committee Meeting Summary Package, March 18, 2021, "Nexus between airspace modernization, NAC advice, and community engagement," https://www.faa.gov/sites/faa.gov/files/about/office_org/headquarters_offices/ang/20210318_NAC_Meeting_Summary_Package_FINAL.pdf

2022. The results showed that 59% of respondents reported no improvement or worse in FAA's local engagement, and 71% reported no improvement or worse at the national level. For the FAA's Community Engagement Officer/Ombudsman program, 92% said it had not improved local engagement, and 86% said the same for national engagement. Although FAA has promoted tools like the Noise Portal and online chat features, most respondents reported these tools provided little practical value—citing a persistent lack of responsiveness and exclusion from meaningful decision-making.[23]

Discretionary Interpretation for CATEX, EA, and EIS Undermines Public Protections

FAA's discretionary interpretation of undefined terms, outdated significance thresholds, generalized language, and scoping limitations can result in decisions that lack transparency and reduce opportunities for meaningful public input. As described in Section 2 ("Systemic Problems with FAA's Use of CATEX Undermines NEPA Safeguards"), these interpretive challenges have led to outcomes that leave communities without a clear path for participation. As mentioned earlier, in the case involving the PIRAT procedure, the FAA finalized an IER without notifying the public and referenced airport and community support in ways that were not externally auditable or clearly documented with identifiable sources—such as named individuals providing written confirmation. While this occurred in a CATEX context, similar practices—such as limited disclosure or lack of disclosure of impacts from the perspective of the lived community—may also occur in EA and EIS processes. Without clear definitions, conveying the lived experience of communities, consistent documentation standards, and transparency, the current approach will continue to lead to decisions that do not fully reflect affected stakeholder perspectives or the intent of NEPA's public participation requirements.

Recommendation:

- Require FAA to distinguish between general awareness and actual consultation or endorsement and prohibit the use of labels such as "Community Requested" or "Supported by the Airport Proprietor" unless supported by written confirmation from a named individual or an authorized representative of the organization based on the full disclosure of community impacts. All final determinations should include a transparent and auditable record of how stakeholder input was obtained, characterized, and addressed.

FAA Order 1050.1G as Guidance Reduces Accountability for Community Protections and Timely Notification

FAA Order 1050.1G functions as internal agency guidance rather than enforceable regulation, giving the FAA substantial discretion in how it applies environmental procedures. While flexibility allows adaptation to changing legal and political contexts, it also weakens enforcement and accountability. Advocates and affected communities lack the ability to enforce even basic procedural actions — such as early notice, disclosure of changes, or the use of data representing the lived experience of communities — when those actions are embedded in discretionary guidance. Moreover, FAA does not require notification when it alters project scope, environmental conclusions, or mitigation strategies during NEPA document preparation. These omissions result in final decisions that may reflect outdated or incomplete information — particularly when public input was provided under different assumptions.

[23] Darlene Yaplee, *FAA Community Engagement Scorecard (FAACES),* presented at the Aviation Noise & Emissions Symposium, May 1-3, Davis, CA

Recommendation:

- Clearly delineate which portions of Order 1050.1G are binding and which are discretionary for CATEX, EA and EIS. Community-facing elements — including public notifications, public involvement opportunities, application of thresholds, and representation of the lived experience; and
- Require public notification of all IER steps (from notice of intent to initiation to conclusion) to allow communities to raise concerns that may constitute extraordinary circumstances prior to finalizing an IER.

FAA's Post-Hoc Dismissal of Community Input Undermines the 'Arbitrary and Capricious' Standard

FAA's assertion that its environmental determinations are reasonable and well-explained is undermined when the agency fails to notify the public in advance of drafting NEPA documents, thereby preventing early submission of relevant information by the community. In multiple instances, FAA has dismissed community concerns post-hoc on the grounds that no data was provided earlier—despite the agency not offering an opportunity to do so. Additionally, FAA's justifications often rely on selective or ambiguous interpretations of community intent or lack of concern, which casts doubt on the objectivity of its Extraordinary Circumstances and significance conclusions.

Recommendation:

- Avoid arbitrary and capricious outcomes by establishing a pre-drafting community input window prior to scoping and maintain a public record of all submitted data and community positions. FAA must also apply categorical exclusions and the significance threshold consistently across projects, documenting rationale for any deviation and enabling external review for consistency.

Increased FAA Discretion in EA Procedures May Weaken Public Notification and Input Opportunities

While categorical exclusions have traditionally lacked public involvement requirements, FAA's revisions to Environmental Assessments (EAs) now allow greater discretion in how and when public input is solicited.

This may lead to fewer opportunities for the public to engage meaningfully, especially if no advanced notice of EA preparation is given. Public engagement should not be minimized simply because the agency has flexibility—it should be maintained or strengthened when proposed actions are likely to generate community concern or disproportionate impacts.

Recommendation:

- Require a standard notice-and-comment period for all Environmental Assessments under FAA Order 1050.1G, with exceptions granted only where documented urgency exists. Additionally, require FAA to publish a notice of intent to prepare an EA on a publicly accessible online portal with an opportunity for pre-drafting input.

Restriction of Scoping Authority to FAA Employees May Limit Early Community Engagement
FAA's decision to centralize scoping authority under FAA control and define the "Responsible FAA Official" exclusively as an FAA employee may reduce early engagement opportunities. While airport sponsors or their contractors may still prepare NEPA documentation under separate FAA and DOT guidance, the specific exclusion from leading scoping processes could impede communication during the formative stages of project review. This distinction must be clarified to prevent confusion and to ensure that scoping includes credible and timely community input under FAA oversight.

Recommendation:

- Clarify in FAA Order 1050.1G that while FAA must lead scoping decisions, airport sponsors and their contractors may support community outreach under FAA direction during scoping. Establish a consistent protocol for publicly announcing the start of scoping within 30 days of initiating the process.

Delegation of EA Documentation to Contractors Risks Conflicts of Interest
DOT Order 5610.1C §7(d) states that an applicant or a contractor hired by the applicant **may prepare documentation** for a Categorical Exclusion (CATEX), Environmental Assessment (EA), or Environmental Impact Statement (EIS), where applicable. In contrast, FAA Order 1050.1G provides that a sponsor or the sponsor's consultant **may prepare environmental documents**, including an EA or EIS, under FAA supervision. This discrepancy introduces uncertainty about whether FAA permits CATEX documentation to be prepared by a sponsor's consultant, and if so, whether it is subject to the same level of FAA oversight.

CATEX determinations are typically made without public input. In this context, even the perception that a consultant hired by the project sponsor may influence the documentation raises serious concerns about objectivity and public trust. Clear boundaries are needed to ensure that environmental determinations are based on impartial review and consistent standards.

This concern is not theoretical—it has occurred in practice, as illustrated by the example in Section 2. In that case, a CATEX determination involved considerable discretion in how the project was characterized and whether extraordinary circumstances were triggered. The FAA's interpretation allowed the project to proceed without public notice, despite significant procedural changes and community impacts.

This example underscores how much interpretive leeway exists in the current process—and why FAA's role is essential to applying consistent standards, ensuring transparency, and improving accountability over time.

Even with FAA's current shortcomings—including lack of transparency, limited review of cumulative impacts, and flexible interpretation of "extraordinary circumstances"—it remains more protective of the public interest for FAA itself, not sponsor-hired consultants, to be responsible for preparing or verifying CATEX documentation. FAA is still the only entity in a position to enforce consistency across determinations and clarify key definitions in practice.

Recommendation:

- Revise Order 1050.1G to clarify that CATEX documentation may not be prepared by a sponsor or a sponsor's consultant. Instead, all CATEX documentation should be prepared by FAA staff or by a neutral third-party contractor selected and managed by FAA. Strengthening FAA's responsibility in this process is essential to uphold the integrity of NEPA, prevent conflicts of interest, and preserve public confidence in environmental decision-making.

4. Categorical Exclusion (CATEX) for eVTOL Procedures is Premature and Inappropriate

The FAA's decision to apply a new categorical exclusion (CATEX) to electric Vertical Takeoff and Landing (eVTOL) flight procedures is premature and inappropriate. In 2018, NASA established the Urban Air Mobility Noise Working Group (UNWG) to bring together noise experts from government, academia, and industry to collaboratively identify and address key challenges related to UAM noise. The group's 2020 paper outlined high-level goals and identified gaps in current tools, testing methods, metrics, and regulatory frameworks. A follow-up paper is forthcoming in 2025, reflecting continued progress in advancing the science, policy, and community engagement to address UAM noise issues.[24] This ongoing, multi-stakeholder effort highlights that the knowledge base for understanding and managing eVTOL noise impacts is still evolving—making it premature to assign categorical exclusions to eVTOL procedures before these foundational issues are resolved. Given these unresolved technical and policy issues, preemptively assigning categorical exclusions to eVTOL procedures is premature. These operations involve novel aircraft, unfamiliar noise profiles, and evolving regulatory standards—none of which are adequately addressed through a categorical exclusion process designed for conventional aviation. Applying the most permissive level of environmental review to the earliest stages of eVTOL deployment risks overlooking potential serious community impacts.

Environmental Review Framework for eVTOLs Falls Short of NEPA Intent

The inclusion of a new eVTOL CATEX—which applies to powered-lift aircraft procedures—raises significant concerns about the adequacy of environmental review for these novel operations. FAA Order 1050.1G continues the long-standing practice of allowing **certain** flight procedure changes below 3,000 feet AGL to qualify for a CATEX, but now explicitly includes **all** eVTOL procedures at **all** altitudes.

This is inappropriate given that eVTOLs differ substantially from traditional fixed-wing aircraft or helicopters. They represent a new class of aircraft, certified under special class designations (14 C.F.R. § 21.17(b)) due to their novel design features. The 2024 GAO report on Advanced Air Mobility (GAO-24-106451)[25] confirms that FAA had to depart from prior certification frameworks and establish new airworthiness criteria tailored to eVTOL designs—acknowledging that conventional standards do not apply. If conventional standards could not be applied to eVTOL designs, surely conventional CATEX should not be applied to new eVTOL aircraft procedures or vertiports.

[24] NASA Urban Air Mobility Noise Working Group. *Urban Air Mobility Noise: Current Practice, Gaps, and High-Level Goals*. NASA/TP–20205010301, July 2020. https://ntrs.nasa.gov/citations/20205010301

[25] GAO, *Advanced Air Mobility: Legal Authorities and Issues to Consider for Operations*, GAO-24-106451 (Washington, D.C.: Mar. 14, 2024)

FAA's Certification Approach Recognizes eVTOLs as Fundamentally Different
FAA's own aircraft certification practices demonstrate that eVTOLs are not simply modified helicopters or fixed-wing aircraft. Certification standards are still evolving, and eVTOL rulemaking, maintenance protocols, and noise regulations remain under development. If these aircraft are not yet suitable for regulation under legacy airworthiness frameworks, then they should not be granted environmental exclusion under legacy NEPA assumptions.[26]

FAA Proposes CATEX While Still Evaluating eVTOL Impacts
The 2024 GAO report also confirms that FAA is still assessing how to conduct environmental reviews for Advanced Air Mobility and has not yet determined whether existing metrics, like DNL, are appropriate. The report states that FAA "plans to consider whether and under what circumstances supplemental, companion, or alternative noise metrics are appropriate" for AAM.[27]

Existing CATEX Criteria Do Not Reflect the Unique Impacts of eVTOLs

"Noise-Sensitive Areas" Framework Falls Short

Although using a CATEX for eVTOL requires avoidance of "noise-sensitive areas," this concept has typically been applied using the DNL 65 contour and land use assumptions developed for traditional fixed-wing aircraft. It fails to account for several unique characteristics of eVTOL operations:

- Dynamic, low-altitude flight patterns—including hovering and lateral movement—create broader or differently shaped exposure zones;
- High-volume operations at low altitudes, with hundreds of daily procedures, may exceed what many communities experience from traditional aircraft;
- Concentrated corridors may introduce overflights in areas not historically classified as "sensitive";
- Cumulative impacts from frequent operations, across multiple aircraft types and nearby airports, are not reflected; and
- Community-specific vulnerabilities, such as disproportionate impacts on low-income or minority populations, are not captured by conventional land-use definitions.

As a result, CATEX screening under current criteria may overlook not only significant noise impacts but also disproportionate burdens that qualify as "extraordinary circumstances" under NEPA. This is especially problematic for eVTOLs, whose aircraft characteristics, operational profiles, and deployment patterns challenge the assumptions embedded in CATEX criteria for conventional aviation.

FAA's DNL Modeling Underrepresents eVTOL Overflight Exposure

A. Zipline Drone EA Case Study
In an Environmental Assessment for Zipline drone deliveries, the analysis used DNL to model exposure from 1 to 499 operations per day. Despite the enormous difference in volume, the DNL 65 contour

[26] Ibid.
[27] Ibid.

remained just 25 feet from the launch site[28]—highlighting DNL's insensitivity to the count of events. High daily overflight counts appeared negligible in the model using DNL, even though they could raise public concern or cause annoyance.

B. City of College Station Requests Halt to Drone Pilot and Expansion

In 2024, the City of College Station, TX formally requested that FAA halt a planned drone expansion after the FAA issued a Final Supplemental Environmental Assessment and Finding of No Significant Impact (FONSI).[29] Residents described the noise as disruptive: "It sounds like a giant hive of bees."[30] Despite the FAA's FONSI findings, the project was cancelled following community backlash.

This case demonstrates that even projects deemed environmentally insignificant on paper can generate real-world disruption—and that CATEX-level exclusions for more complex and louder eVTOL operations could risk missing similar harms.

"Crawl–Walk–Run" Approach Conflicts with Premature CATEX

Both FAA and NASA have emphasized a phased integration of Advanced Air Mobility, grounded in real-world testing and incremental development. FAA has adopted a "crawl–walk–run"[31] approach for UAM standards, while NASA promotes a "build, explore, learn"[32] model. This shared philosophy acknowledges that environmental, safety, and operational risks must be understood through experience. Yet an eVTOL CATEX authorizes low altitude eVTOL procedures and therefore operations without requiring a thorough environmental review or public engagement, contradicting the evolutionary approach both agencies have publicly embraced.

Recommendation:

- Rescind or suspend CATEX use for eVTOL flight procedures. It is premature to apply the most permissive level of environmental review to a new class of aircraft whose operations, impacts, and regulatory standards are still evolving. Using a categorical exclusion at this stage bypasses the iterative, data-informed process needed to understand how powered-lift operations affect communities—and undermines the transparency and accountability required by NEPA.

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[28] Federal Aviation Administration (FAA). (2022, February). *Final Environmental Assessment and Finding of No Significant Impact/Record of Decision: Zipline International Inc. Drone Package Delivery Operations, Kannapolis, NC and Surrounding Area*. Retrieved from https://www.faa.gov/uas/advanced_operations/nepa_and_drones

[29] FAA, *Final Supplemental Environmental Assessment for Prime Air College Station, TX* (Sept. 23, 2024), https://www.faa.gov/uas/advanced_operations/nepa_and_drones/FINAL-College-Station-Supplemental-EA-23Sept2024.pdf

[30] Palmer, Annie. "Amazon's Drone Expansion Plans Spur Pushback from Texas Residents." *CNBC*, August 16, 2024 https://www.cnbc.com/2024/08/16/amazons-drone-expansion-plans-spur-pushback-from-texas-residents.html

[31] Federal Aviation Administration, *Innovate28: Preparing for AAM Operations in 2028*, Version 1.0, November 2023

[32] NASA, *Understanding Risk in Urban Air Mobility*, NASA Technical Memorandum TM-20205000604, June 2020, p. 7. Available at: https://ntrs.nasa.gov/api/citations/20205000604/downloads/NASA%20TM20205000604.pdf

5. Marginalization of Vulnerable Populations and Cumulative Impacts

Application Flaw: FAA Gives Disproportionate Weight to DNL 65 in Assessing Extraordinary Circumstances

Even when an Extraordinary Circumstance (EC) is proposed, such as disproportionate impacts to vulnerable communities or unusual public controversy over environmental effects—both of which are recognized ECs under FAA Order 1050.1G—the FAA has historically placed substantial weight on modeled noise levels relative to the DNL 65 dB threshold when assessing significance. This pattern appears likely to persist under the new order. While other factors may be noted, DNL 65 functions as the benchmark, which often discounts or overrides environmental concerns rooted in community experience, such as:

- Count and loudness of aircraft noise events (overflights);
- Low-frequency or tonal noise characteristics;
- Cumulative exposure from multiple procedures or airports;
- Ambient conditions that influence noise perception; and
- Potential public health impacts, such as sleep disruption, stress, or cardiovascular risk—especially where noise contributes to broader environmental or health burdens in vulnerable communities.

These concerns are further compounded by the lack of transparency around how significance is evaluated, which makes it difficult for affected communities to understand, verify, or challenge the assumptions underlying FAA's conclusions. In a representative case, the FAA determined that a procedure directly overflying a known vulnerable community would not have significant or disproportionate impacts, and checked "No" under the IER entry for "Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks."[33] While in the FAA letter describing its rationale, multiple factors were noted (although not described), the FAA emphasized that modeled noise levels remained below the "threshold of significance,"[34] a determination that appeared to override cumulative burdens and formal concerns expressed in letters from both the community and a neighboring city.[35] It is important to note that noise screening analyses used in IERs are only back of the envelope estimations, not thorough and rigorous calculations of noise impacts.

FAA's obligation under Executive Order 12898[36], reaffirmed in FAA Order 1050.1G, requires the agency to evaluate whether federal actions may result in **disproportionate impacts on low-income or minority populations**. However, FAA's continued use of DNL 65 dB as the central indicator of significance is too limited to meet the intent of the Executive Order, as it fails to capture cumulative burdens, the number and loudness of noise events, or sensitivities in overburdened communities.

Order 1050.1G confirms that such impacts must still be evaluated. Section § 1.2(b)(1)(xi) requires FAA to consider "**socioeconomics** and children's health and safety risks" in its NEPA reviews. Appendix B-1(b)(5) identifies as an "extraordinary circumstance" any action causing "a division or disruption of an

[33] See Appendix A
[34] See Appendix D
[35] See Appendix C
[36] Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (Feb. 11, 1994**),** 59 Fed. Reg. 7629 (Feb. 16, 1994)

established community" or inconsistency with "plans or goals that have been adopted by the community." These factors, if present, preclude categorical exclusion and require further environmental review.

Order 1050.1G Appendix A further identifies potential significance where actions could "cause extensive relocation," "severe economic hardship," or "produce a substantial change in the community tax base." While the term "Environmental Justice" does not appear, these provisions operationalize EO 12898 by requiring identification of "adverse" and "disproportionate" impacts on vulnerable populations. FAA's continued reliance on DNL 65 as the dominant interpretation risks overlooking "significant" community effects that do not register within this metric and threshold but nonetheless warrant attention under EO 12898 and the obligations embedded throughout Order 1050.1G.

This persistent misapplication underscores the need for updated evaluation processes that reflect the full range of community impacts and triggers for extraordinary circumstances.

Recommendation:

- Clarify that staying below DNL 65 does not preclude a finding of disproportionate impact under NEPA or Executive Order 12898—and implement this interpretation consistently in environmental reviews—publicly documenting how contextual, cumulative, and community-informed factors are considered and how they influence the determination.

6. Inadequate Role of Noise Monitoring in NEPA Review

On page C-3 of FAA Order 1050.1G, the FAA states that "noise monitoring data is not required for FAA noise analysis but may be optionally included in a National Environmental Policy Act (NEPA) document. Noise monitoring data should not be used to calibrate the noise model." While the FAA permits inclusion of site-specific monitoring data in NEPA documents, its role in the analysis and decision-making process remains quite limited.

When monitoring data is available—particularly in areas where AEDT is known to underrepresent noise impacts—it should serve as a critical point of comparison to modeled results. It should also inform ongoing improvements to the model, including the development of error bars or confidence intervals that should be disclosed as part of the modeled impacts in NEPA documents.

For example, the Stanford University MONA (Metroplex Overflight Noise Analysis) study,[37] conducted over a one-year period on 200,000 SFO arrivals, found that AEDT underestimated arrival noise by

an average of -3.09 dB LAmax and -2.04 dB SEL on some overflown communities. These findings are consistent with other independent studies and long-standing community concerns that AEDT systematically underrepresents real-world noise levels.

The phrase "should not be used to calibrate the noise model" warrants clarification. If "calibrate" is intended to prohibit project-specific adjustments to AEDT outputs based on monitoring data, that limitation should be made explicit. However, monitoring data included in the NEPA record is essential

[37] Rindfleisch, T. C., Alonso, J. J. & Jackson, D. C. "A large-scale validation study of aircraft noise modeling for airport arrivals," *Journal of the Acoustical Society of America*, 155(3), pp. 1928–1949 (Mar. 1, 2024)

for representing community experience and validating modeled results. It should also inform FAA's continuous improvement of AEDT and enhance public transparency regarding model performance.

Recommendation:

- Clarify the intended meaning of "should not be used to calibrate the noise model" in Order 1050.1G; and
- Ensure that monitoring data, when available, is used to validate AEDT outputs, inform continuous model improvement, and require public disclosure of model limitations including all environmental reviews—such as confidence intervals or error margins—based on known AEDT accuracy characteristics.

7. Risks of Superficial Review from NEPA Page and Time Limits

FAA Order 1050.1G adopts the statutory page and time limits for NEPA documents—75 pages and 1 year for Environmental Assessments (EAs), and 150 pages and 2 years for Environmental Impact Statements (EISs). While we support the intent to improve efficiency and accessibility, we are concerned that strict adherence to these limits, without corresponding guidance on essential content, could result in the omission of analysis critical to communities impacted by aviation activity.

Recommendation:

- Establish a clear process for granting exceptions when additional time or documentation length is justified by the complexity, scale, or public interest of a proposed action. Page and time limits should not override the requirement to conduct a thorough, good-faith review of reasonably foreseeable impacts—especially for complex or controversial aviation projects;
- Keep technical appendices or references available and clearly linked to the public record to ensure transparency around data inputs, modeling assumptions, and forecasted impacts—even if excluded from the main body of the document;
- Use a content template or checklist to define the minimum elements required for compliance—including noise, air quality, cumulative impacts, alternatives considered, and community engagement—and ensure these elements are addressed substantively within applicable page limits. It should promote clear, concise formats (e.g., summary tables or graphics) and, over time, incorporate illustrative examples to support consistent, effective implementation. The template or checklist should also be subject to continuous improvement based on feedback from all stakeholders, including communities, agencies, and practitioners.

8. Statutory CATEX Criteria for 'Limited Federal Assistance' Projects May Mask Significant Impacts Through Project Packaging

Section 788 of the FAA Reauthorization Act of 2024 establishes statutory criteria that allow certain projects to qualify for a categorical exclusion (CATEX) from NEPA review based on limited federal involvement. Specifically, a CATEX may apply if a project:

(A) receives less than $6 million in federal funding,
(B) receives less than $6 million in PFC revenue, or
(C) has a total cost below $35 million with federal funds comprising no more than 15%.

These criteria are intended to streamline environmental review for smaller-scale airport development projects. However, they introduce new risks of circumventing environmental analysis—particularly where multiple related projects are divided into smaller components or where seemingly minor projects still cause disproportionate effects. The risk of segmentation or masking cumulative impacts increases when the focus is solely on funding thresholds rather than the nature or context of the project.

Recommendation:

- Clarify Order 1050.1G to explicitly require that the application of CATEX under Section 788 includes a review for cumulative impacts and segmentation. Any action that is part of a broader program or sequence of related projects should be evaluated collectively for potential extraordinary circumstances (especially unusual public controversy), including noise, air quality, and effects on vulnerable communities;
- Define "limited federal assistance" within the Order, establishing clear criteria such as maximum funding percentage, project scope, or type of FAA involvement. Where FAA has a limited or supportive role, but reasonably foreseeable environmental impacts exist, the agency should require, at minimum, an Environmental Assessment to ensure NEPA compliance and prevent segmentation of broader impacts;
- Provide guidance clarifying how these statutory provisions interact with NEPA's requirement for holistic impact analysis; and
- See recommendations in Section 2 "Systemic Problems with FAA's Use of CATEX Undermine NEPA Safeguards".

9. Removal of Expiration Timeframes for NEPA Documents Risks Perpetual Use of Outdated Environmental Analyses

FAA Order 1050.1G appears to eliminate the prior three-year expiration period for Environmental Assessments (EAs), Environmental Impact Statements (EISs), and categorical exclusion (CATEX) determinations. Section 3.2a allows reliance on any pre-existing environmental document as long as it "meets the standards" under the current procedures, but this is vague and may lead to indefinite reliance on outdated analyses. Without a defined validity period, FAA decisions may continue to rely on noise modeling assumptions or policy frameworks that have been superseded. This undermines the public interest in applying updated science, metrics, and policies—particularly as the FAA considers revisions to its noise policy.

Recommendation

- Restore a clear expiration period for NEPA documents—such as the prior three-year limit—after which a re-evaluation must be conducted before the document can be relied upon. This requirement is essential to ensure new policies, improved metrics, and updated public input are considered before decisions are finalized or implemented under outdated documentation.

10. Health Impacts Excluded Despite Extensive Research, Including FAA's Own

FAA Order 1050.1G does not require meaningful evaluation of health impacts from aviation noise—even though a substantial body of peer-reviewed epidemiological research, including the agency's own studies, has established links to cardiovascular disease, sleep disturbance, and cognitive or developmental effects.

This body of evidence includes findings from FAA-funded work conducted through the ASCENT Center of Excellence[38] and the PARTNER program[39], which examine aviation noise effects on health. FAA's continued exclusion of health impacts is a major shortcoming that weakens the credibility of environmental reviews.

Independent, non-FAA studies further reinforce these conclusions, and some are documented in the Aviation-Impacted Communities Alliance's (AICA's) public comment for the FAA Noise Policy Review (Docket ID FA-2023-0855-2206).[40] Additional support was presented by the Program Chair of The Quiet Coalition, *"The FAA Allows Americans to Be Exposed to Unsafe Levels of Aviation Noise"* at the 2024 Aviation Noise & Emissions Symposium, held March 9–11 in Las Vegas.[41]

The WHO 2018 aircraft noise guidelines recommend average exposure below 45 dB Lden and night levels under 40 dB Lnight, while the U.S. EPA's 1974 report advised 55 dB DNL for outdoor environments. The Swiss Federal Noise Abatement Commission's 2021 report reviewed existing evidence and proposed updated thresholds.[42] These examples underscore the global, independent science supporting health-based policy.

Recommendation:

- Commission an independent, peer-reviewed consensus report from the National Academies of Sciences, Engineering, and Medicine—aligned with the Air Traffic Noise and Pollution Expert Consensus Act (reintroduced in the 119th Congress as H.R. 1484)—to synthesize existing research and recommend evidence-based, health-protective noise metrics and thresholds. FAA should commit to reviewing the findings and, within a defined timeframe, incorporating the recommended thresholds and metrics into updated noise policy and NEPA guidance.

[38] *Aviation Noise and Cardiovascular Health in the United States: A Review of the Evidence and Recommendations for Research Direction*, ASCENT Project 003, FAA Center of Excellence for Alternative Jet Fuels and Environment (ASCENT), October 2019. Available at: https://ascent.aero/documents/2019/10/october-2019-ascent-003.pdf

[39] FAA PARTNER Project 19: *Health Impacts of Noise from Aviation*, Partnership for Air Transportation Noise and Emissions Reduction (PARTNER), FAA Center of Excellence. Summary and publications available at: https://partner.aero/projects/project19.aspx

[40] Aviation-Impacted Communities Alliance (AICA) Comment, FAA Noise Policy Review, Docket ID FAA-2023-0855-2206

[41] Dr. Daniel Fink, *"The FAA Allows Americans to Be Exposed to Unsafe Levels of Aviation Noise"*, presented at the 2024 Aviation Noise & Emissions Symposium, March 9–11, Las Vegas, NV

[42] Federal Noise Abatement Commission (EKLB). *Recommendations of the EKLB on the Definition of Limit Values for Road, Rail and Aircraft Noise.* December 2021. Available at: https://www.eklb.admin.ch/en/federal-noise-abatement-commission

Appendices to Public Comment on FAA Order 1050.1G

Appendix A

Initial Environmental Review (IER): PIRAT Procedure (2018)

Appendix 5. Air Traffic Initial Environmental Review

Facility/Office:	Western Service Center/OSG	Date:	May 17, 2018
Prepared By:	Katherin Matolcsy	Phone:	206-231-2237

This initial environmental review (IER) will provide basic information about the proposed project to better assist in preparing for the environmental analysis phase and inform the FAA's compliance with the National Environmental Policy Act of 1969 (NEPA) (42 United States Code [U.S.C.] Section 4321 et seq.; implementing regulations issued by the Council on Environmental Quality (CEQ) (40 Code of Federal Regulations (CFR), parts 1500-1508); FAA Order 1050 1F, *Environmental Impacts: Policies and Procedure*s (FAA Order 1050.1F); and FAA Order 7400.2L, *Procedures for Handling Airspace Matters*. FAA Order 7400.2L provides guidance and establishes policy and procedures to assist air traffic personnel in applying the requirements of FAA Order 1050.1F.

Although the IER requests information in several categories, not all the data may be available initially; however, it does represent information, in accordance with FAA Order 1050.1, which ultimately will be needed for preparation of the environmental document.

Once the FAA determines that NEPA applies to a proposed action, the FAA needs to decide on the appropriate level of review. The three levels of NEPA review are Categorical Exclusion (CATEX), Environmental Assessment (EA), and Environmental Impact Statement (EIS). A CATEX refers to a category of actions that the FAA has determined, based on previous experience, do not individually or cumulatively have a significant effect on the human environment except in extraordinary circumstances. The presence of extraordinary circumstances preclude the use of a CATEX and would merit additional review in an EA or EIS. A CATEX is not an exemption or a waiver from NEPA; it is a level of NEPA review and compliance. FAA Order 1050.1F, Section 5-6.5, Categorical Exclusions for Procedural Actions includes the list of CATEXs involving establishment, modification, or application or airspace and air traffic procedures.

This document describes how the CATEX applies to the Proposed Action, and presents analysis of extraordinary circumstances that, if present, could require more detailed NEPA review. There is not a prescribed format for an environmental review of a CATEX. However, the documentation should "cite the CATEX(s) used, describe how the proposed action fits within the category of actions described in the CATEX, and explain that there are no extraordinary circumstances that would preclude the proposed action form being categorically excluded." FAA Order 1050.1F. Section 5-3.d.

A. Project Description. The FAA is proposing to amend multiple procedures for the San Francisco International Airport (KSFO) in San Francisco, California and one procedure for the Metropolitan Oakland International Airport (KOAK) in Oakland, California (Figure 1). The FAA is also proposing to implement one new Standard Terminal Arrival Route (STAR) for both KSFO and KOAK.

The proposed project consists of three grouped actions:

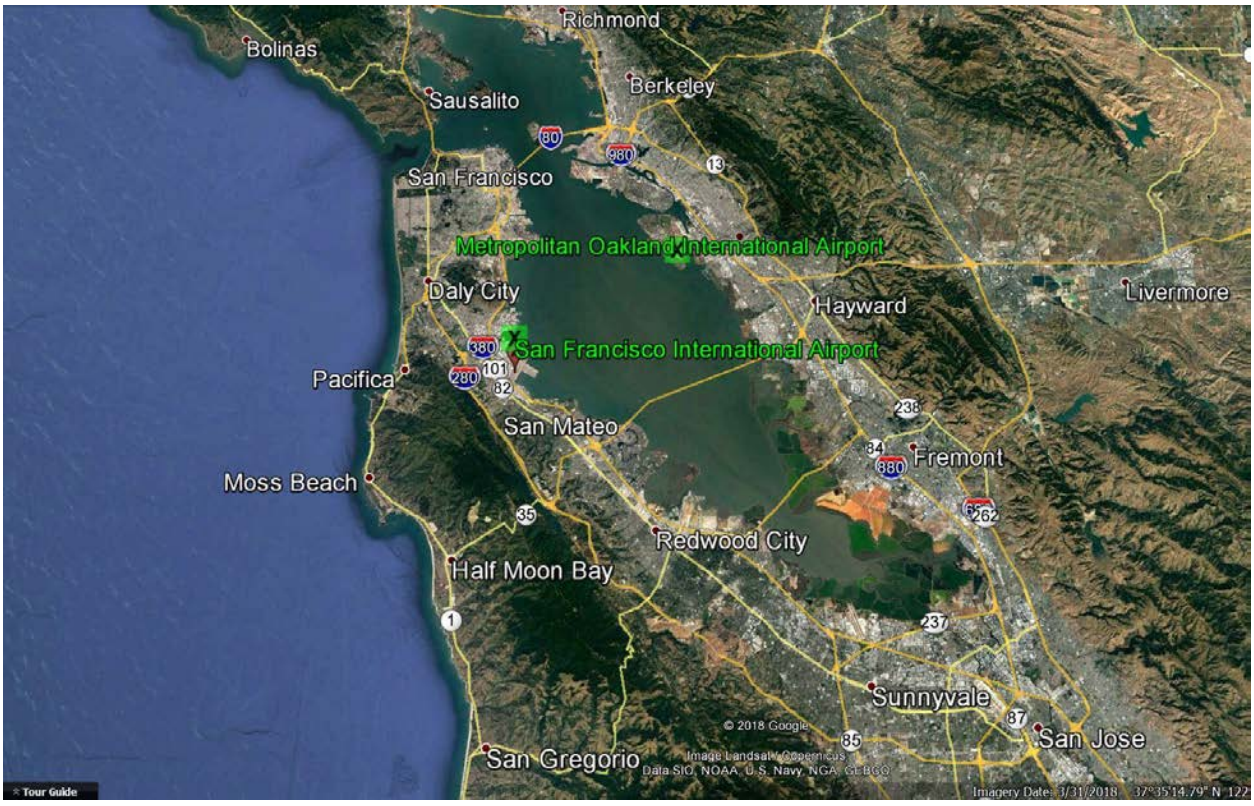
1. The DYAMD STAR procedure would be amended to conform to the Class B Airspace redesign and current procedure design criteria.

   Eight Instrument Approach Procedures (IAPs) to Runways (RWY) 28L/R and one Charted Visual Flight Procedure (CVFP) to RWY 28L/R would be amended to maintain connectivity to the DYAMD STAR.

2. Amend three Standard Instrument Departure (SID) procedures: WESLA and SSTIK at KSFO and CNDEL at KOAK.

3. A new Area Navigation (RNAV) STAR to replace the non-charted Pacific 2 Tailored Arrival procedure into KSFO and KOAK.

Figure 1. General Area of the San Francisco International Airport and the Metropolitan Oakland International Airport



B. Has airspace modeling been conducted using Sector Design Analysis Tool (SDAT), Total Airspace and Airport Modeller (TAAM), Terminal Area Route Generation, Evaluation, and Traffic Simulation (TARGETS), or other airspace/air traffic design tool?

☒Yes ☐No If Yes, Model: TARGETS and the Instrument Approach Procedures Automation (IAPA).

If yes, provide a summary of the output from the modeling.
TARGETS distribution packages are available in Attachment 1.

C. Describe the existing (no action alternative) in full detail. Provide the necessary chart(s) depicting the current procedure or provide information for a new procedure. Describe the typical fleet mix, quantifying (if possible) the number of aircraft on the route and depict their altitude(s) along the route.

The following current (published) procedures would be amended (Refer to Attachment 2 for Terminal Procedure Publication procedure charts):

1. DYAMD STAR:
    1. DYAMD THREE ARRIVAL RNAV

2. Standard Instrument Departures:
    1. SSTIK THREE DEPARTURE (RNAV)
    2. WESLA THREE DEPARTURE (RNAV)
    3. CNDEL THREE DEPARTURE (RNAV)

3. Instrument Approach Procedures:
    1. Instrument Landing System (ILS) or Localizer (LOC) Runway (RWY) 28L
    2. ILS or LOC RWY 28R
    3. ILS RWY 28R (Special Authorization [SA] CAT I[1])
    4. ILS RWY 28R (CAT II – III)
    5. ILS RWY 29L (SA CAT II)
    6. RNAV (Required Navigation Performance [RNP]) Y RWY 28R
    7. RNAV (Global Positioning System [GPS]) RWY 28L
    8. RNAV (GPS) Z RWY 28R

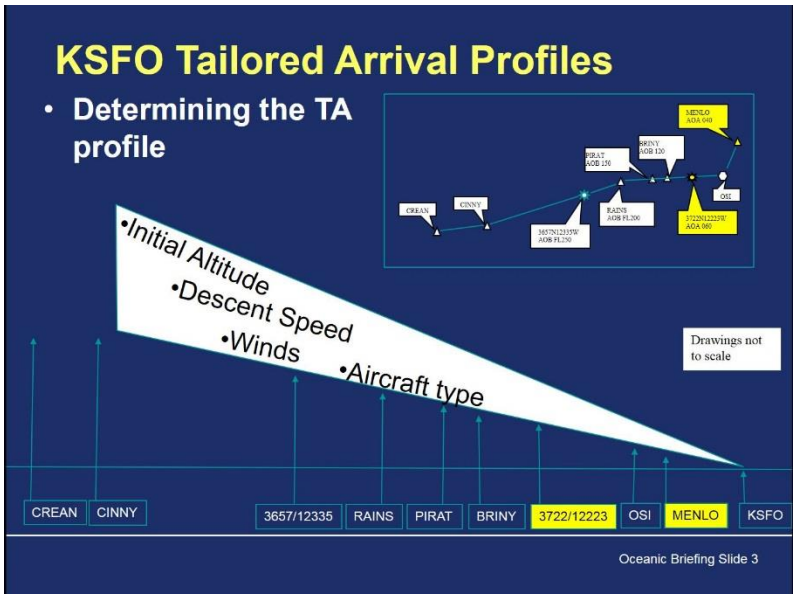
4. Charted Visual Flight Procedure:
    1. QUIET BRIDGE VISUAL RWY 28L/R

[1] CAT = Approach category.

5. Pacific 2 Tailored Arrival[2]

The OCEANIC Pacific 2 Tailored Arrival (TA) procedure into KSFO comes in from the west from overseas locations, with aircraft converging into a single path at the PIRAT waypoint, located approximately 23 nautical miles (NM) to the west of the California coastline (Figure 2). Once on a single path, the aircraft cross the San Francisco Peninsula at the Woodside Very High Frequency Omni-Directional Range Tactical Air Navigation (OSI VORTAC) system, a navigational beacon and proceed to the final approach into KSFO. This procedure is in use as a test procedure with selected carriers. Tailored arrivals are similar to an optimized profile descent (OPD), except that it is a non-published dynamic procedure (tailored for traffic, aircraft type, environment, time, etc.).

Figure 2. Tailored Arrival into KSFO[3]



FAA's Operations Network[4] reports 450,391 operations for the calendar year 2016 (Table 1).

[2] Tailored Arrivals (TA) is a comprehensive method of planning, communicating, and flying highly-efficient arrival trajectories from cruise altitude to the runway threshold. TA trajectories are optimized for each aircraft to permit a fuel-efficient, low noise descent profile that will provide separation assistance while complying with arrival sequencing requirements and other airspace requirements.

[3] Excerpted from presentation"SOCM-2 Seminar. Data Link Advanced Operations". Presented by Dennis Addison, FAA on February 8, 2012. https://www.google.com/search?q=Pacific+tailored+arrival+into+KSFO&rlz=1C1GCEA_enUS761US761&oq=Pacific+tailored+arrival+into+KSFO&aqs=chrome..69i57.13432j0j8&sourceid=chrome&ie=UTF-8

[4] The Operations Network: official source of FAA air traffic operations. https://aspm.faa.gov/opsnet/sys/Airport.asp

Appendix 5. Air Traffic Initial Environmental Review

Table 1. KSFO Operations Data

	Air Carrier	Air Taxi	General Aviation	Military
IFR Itinerant[5]	379,642	54,856	10,396	411
VFR Itinerant	5	626	2,29	2,16

Note:
IFR= Instrument Flight Rules
VFR = Visual Flight Rules

Runway use percentages[6] for operations during 2014 are reported in Table 2 below.

Table 2. Runway Use

Operating Configuration	Arrival Runways	Departure Runways	Day	Night
West	28L, 28R	01L, 01R	96.6%	94.2%
East2	19L, 19R	10L, 10R	4.4%	5.7%
West (Noise Abatement)	28L, 28R	10L, 10R	0.0%	0.1%

Runway use percentages for arrivals during the year 2014[7] are broken up into aircraft type, and day/night operations in Table 3.

Table 3. Runway Use – Arrivals Only

	Heavy Jets		Jets		Small Jets		Turboprops		Pistons	
RWY	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
19L	5%	5%	3%	5%	0%	0%	3%	3%	0%	0%
19R	0%	0%	1%	0%	0%	0%	1%	1%	0%	0%
28L	46%	16%	38%	16%	21%	0%	59%	28%	0%	8%
28R	49%	79%	58%	79%	79%	100%	38%	68%	100%	92%

The current procedures are provided in Attachment 1. The procedure charts depict the altitudes on each procedure.

[5] Airport Operations. The number of arrivals and departures from the airport at which the airport traffic control tower is located. There are two types of operations: local and itinerant. Local operations are those operations performed by aircraft that remain in the local traffic pattern, execute simulated instrument approaches or low passes at the airport, and the operations to or from the airport and a designated practice area within a 20−mile radius of the tower. Itinerant operations are operations performed by an aircraft, either IFR, SVFR, or VFR, that lands at an airport, arriving from outside the airport area, or departs an airport and leaves the airport area.

[6] Environmental Assessment for Northern California Optimization of Airspace and Procedures in the Metroplex. Average Annual Day Flight Schedules. ATAC Corporation. Revised. August 7, 2014.

[7] Environmental Assessment for Northern California Optimization of Airspace and Procedures in the Metroplex. Average Annual Day Flight Schedules. ATAC Corporation. Revised. August 7, 2014.

Historical radar track data was obtained through the Performance Data Analysis and Reporting System (PDARS) to obtain traffic counts and aircraft mix departures from KSFO and KOAK separated by runway. Departure operations data is available in Table 4.

Historical radar track data was also obtained through PDARS for the Pacific 2 TA. Track data was collected for 90 random days during calendar year 2017 ("2017 Track Data").[8] The selection of 90 random days is considered a conservative representation of the average traffic counts accounting for seasonal variations and peak travel times. Operations on the Pacific 2 TA are shown in Table 5. Table 5 also identifies the transition waypoints for the proposed PIRAT STAR associated with the appropriate position reporting point (waypoint) on the Pacific 2 TA. Flight tracks for ALANN, CINNY, CREAN, and MAFIC waypoints on the Pacific 2 TA are associated with the CINNY transition on the proposed PIRAT STAR. Flight tracks for ALCOA, ALLBE, BUTEN, and CEPAS waypoints on the Pacific 2 TA are associated with the ALCOA transition on the proposed PIRAT STAR. Flight tracks for DACEM and FATMO waypoints on the Pacific 2 TA are associated with the PAINT transition on the proposed PIRAT STAR.

[8] Ninety random days of track data selected in accordance with the FAA Average Annual Day Addendum to the Guidance for Noise Screenings of Air Traffic Actions, utilizing the Random Day Generator tool.

Table 4. Operations Data for Departures from KSFO and KOAK

		Heavy Jets				Large Jets				Small Jets				Turboprops				Pistons			
		Day		Night		Day		Night		Day		Night		Day		Night		Day		Night	
Airport	Runway	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual
KOAK	28L	-	-	-	-	0.1	35	-	-	0.1	26.1	0.02	8.7	0.02	8.7	-	-	-	-	-	-
	28R	-	-	-	-	0.1	35	-	-	0.1	35	-	-	0.02	8.7	-	-	0.02	8.7	-	-
	30	0.02	8.7	-	-	19	6987	2.2	800	2.4	860	0.2	78	0.02	8.7	-	-	-	-	-	-
KSFO	01L	-	-	0.02	8.7	34.5	12610	4.8	1747	0.3	104	-	-	0.05	17.4	-	-	-	-	-	-
	01R	-	-	-	-	1.1	417	0.07	26.1	-	-	-	-	-	-	-	-	-	-	-	-
	10L	-	-	-	-	-	-	-	-	0.02	8.7	-	-	-	-	-	-	-	-	-	-
	10R	-	-	-	-	0.07	26.1	0.14	52	-	-	-	-	-	-	-	-	-	-	-	-
	19R	-	-	-	-	0.02	8.7	-	-	0.02	8.7	-	-	-	-	-	-	-	-	-	-
	28L	-	-	-	-	3.4	1251	0.48	174	0.12	43.5	-	-	0.07	24	-	-	-	-	-	-
	28R	-	-	-	-	2.5	921.2	0.21	78	1.64	600	0.05	17.4	0.5	172	-	-	-	-	-	-
Totals		0.02	8.7	0.02	8.7	60.79	22,291	7.9	2,877.1	4.7	1,686	0.27	104.1	1.13	239.5	-	-	0.02	8.7	-	-

Table 5. Operations Data for the Pacific 2 Tailored Arrival

		Heavy Jets				Large Jets				Small Jets				Turboprops			
		Day		Night		Day		Night		Day		Night		Day		Night	
Position Reporting Point		Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual
[1]PACIFIC 2 TA	[2]PIRAT STAR																
ALANN	CINNY	0.8	277	0.04	14.6	0.8	277	0.6	219	0.01	4.9	-	-	-	-	-	-
ALCOA	ALCOA	0.52	190	0.32	117	0.01	4.9	0.33	122	-	-	-	-	-	-	-	-
ALLBE	ALCOA	4.5	1635	0.47	170	0.63	229	0.17	63.3	-	-	-	-	-	-	-	-
BUTEN	ALCOA	0.4	141	0.01	4.9	0.08	29.2	-	-	-	-	-	-	-	-	-	-
CEPAS	ALCOA	0.21	77.9	0.07	24.3	0.01	4.9	-	-	-	-	-	-	-	-	-	-
CINNY	CINNY	0.48	175.2	2.6	934	0.16	58.4	4.3	1557	-	-	-	-	-	-	-	-
CREAN	CINNY	6.5	2385	1.8	652	6.33	2297	2	730	0.4	146	0.04	14.6	0.01	4.9	-	-
DACEM	PAINT	7.2	2623	0.4	146	0.05	19.5	-	-	-	-	-	-	-	-	-	-
FATMO	PAINT	0.41	151	0.08	29.2	0.03	9.7	-	-	-	-	-	-	-	-	-	-
MAFIC	CINNY	0.7	258	0.2	83	0.04	14.6	0.1	24.3	-	-	-	-	-	-	-	-

D. Describe the proposed project, providing the necessary chart(s) depicting changes. Describe changes to the fleet mix, numbers of aircraft on the new route, and their altitude(s), if any.

Northern California Terminal Radar Approach Control has requested that the crossing restriction of "AT 8,000 feet MSL" at the ARCHI waypoint be lowered to 7,000 feet MSL. The proposed amendment restores the original crossing restriction listed in the Northern California Metroplex Environmental Assessment (July 2014). The proposed amendment will allow arrivals to KSFO approaching from the east to descend on an ODP while remaining within Class B airspace. The proposed amendment accounts for the modified KSFO Class B airspace with a targeted implementation date of August 2018.

Amending the crossing restriction at the ARCHI waypoint requires amendment of the DYAMD STAR and associated IAPs and CVFP to maintain connectivity between DYAMD and the IAPs/CVFP.

The number of aircraft operations and mix are not expected to change. Proposed procedure specific amendments are described below.

DYAMD STAR:

1. Lower the crossing restriction altitude at the ARCHI waypoint from 8,000 feet MSL to 7,000 feet MSL.
2. Remove the speed restriction of AT 230K at the waypoint ARCHI.
3. Move the FRELY waypoint 0.11 nautical mile (NM)/668.37 feet southwest along its current track to conform to current design criteria
4. Reduce the speed restriction at FRELY from AT 240 Knots Indicated Air Speed (KIAS) to 230KIAS. Requested by ATC and industry.

Instrument Approach Procedures and Charted Visual Flight Procedures:
The following IAPs and CVFP will be amended by reducing the crossing restriction at ARCHII from AT 8,000 feet MSL to AT 7,000 feet MSL. No other changes will be made.

1. ILS or LOC RWY 28L
2. ILS or LOC RWY 28R
3. ILS RWY 28R (SA CAT I[9])
4. ILS RWY 28R (CAT II – III)
5. ILS RWY 29L (SA CAT II)
6. RNAV (RNP) Y RWY 28R
7. RNAV (GPS) RWY 28L
8. RNAV (GPS) Z RWY 28R

[9] CAT = Approach category.

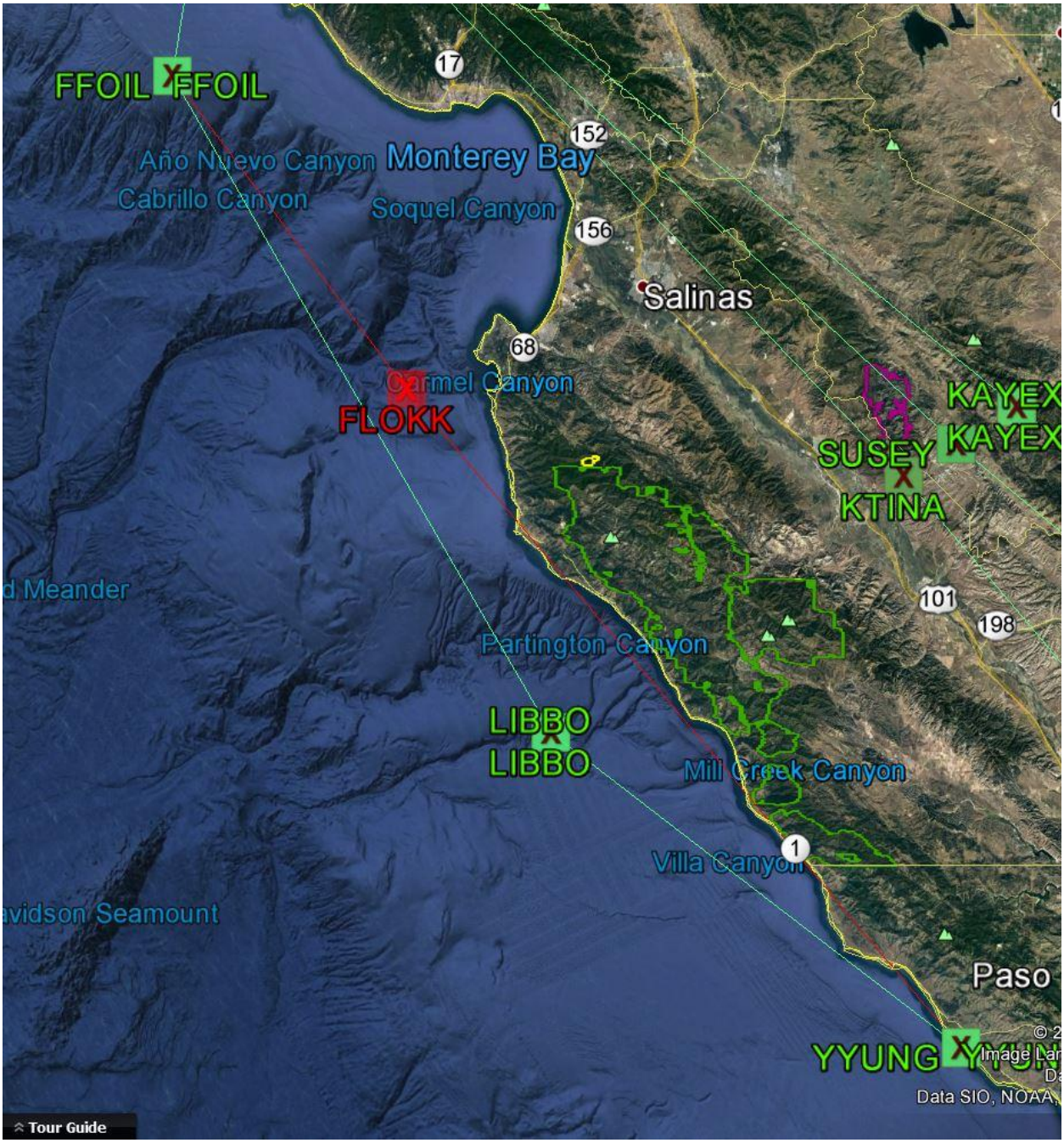
9. QUIET BRIDGE VISUAL RWY 28L/R

Standard Instrument Departure Procedures:
The following amendments are common to the three SIDS:

1. Remove the FLOKK waypoint at ATC's request (Figure 3).
2. Increase the Minimum En Route Altitude (MEA) from 9,000 feet MSL to 11,000 feet MSL on the EBAYE transition from SUSEY to EBAYE. Increase of the altitude reduces the number of critical DMEs[10].
3. Increase the MEA from 9,000 feet MSL to 11,000 feet MSL on the CISKO transition from KTINA to CISKO. Increase of the altitude reduces the number of critical DMEs.
4. Add new waypoint, LIBBO, between FFOIL and YYUNG. Addition of LIBBO moves the procedure alignment approximately 10 NM to the west. This moves the procedure over water; the existing segment between FLOKK and YYUNG is partially over land (Figure 3).

[10] DME = Distance Measuring Equipment

Figure 3. New Waypoint LIBBO to be added. FLOKK to be removed.



The following are the SID-specific amendments:

1. SSTIK THREE DEPARTURE (RNAV):
   a. Move the SSTIK waypoint 0.44 NM/2673.5 feet southeast to conform to current criteria.
   b. Add note indicating runways not available for use: RWYs 10L/R, 19L/R, 28L/R.
   c. Add the San Jose VOR/DME as a critical DME on both the CISKO and EBAYE transitions. Addition of the critical DME is based on RNAV Pro results.

2. WESLA THREE DEPARTURE (RNAV)
   a. Add a critical DME on the EBAYE transition. Addition of the critical DME is based on RNAV Pro results.

3. CNDEL THREE DEPARTURE (RNAV)
   a. Add a critical DME on the EBAYE transition to replace the MANTECA (ECA) VOR/DME which has been decommissioned. Addition of the critical DME is based on RNAV Pro results.

The above-described proposed amendments will not change existing flight paths.

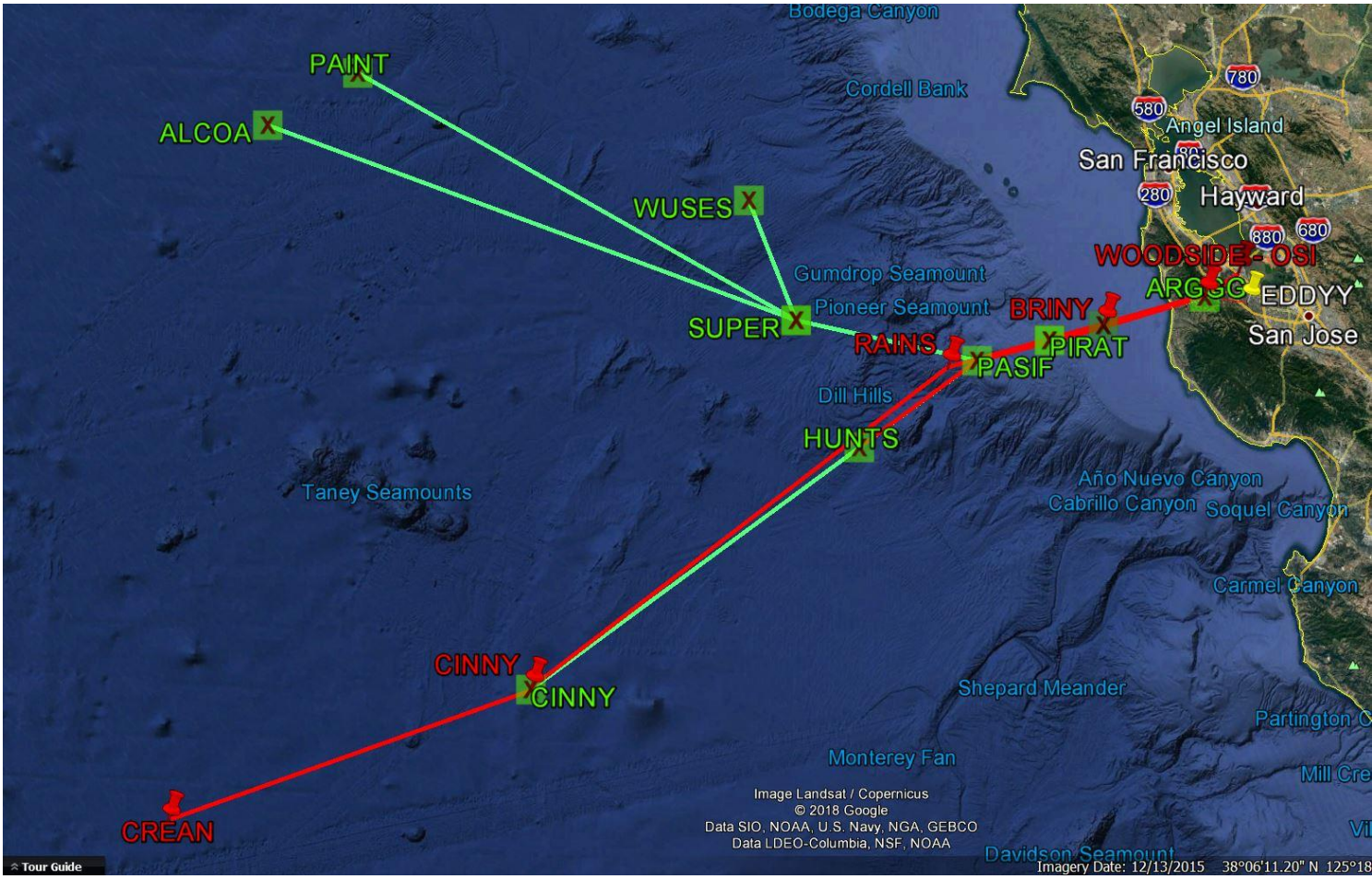
New PIRAT STAR

The PIRAT STAR (Figure 4) will convert the Pacific 2 TA to a public-use RNAV STAR that expands benefits of the TA currently only available to selected carriers to all users of KSFO. The PIRAT STAR will accommodate arrivals to RWY 28L/R at KSFO and RWY 28L/R and RW 30 at KOAK.

The PIRAT STAR will be an Optimized Profile Descent (OPD) STAR, requiring aircraft to cross ARGGG at 8,000 feet MSL or approximately 5,820 feet AGL. The waypoint ARGGG will replace the WOODSIDE VOR (OSI), and is located approximately 100 feet west of OSI along the existing track. At ARGGG, ATC will vector aircraft to final approach course for KSFO and/or KOAK. The PIRAT STAR does not connect to IAPs.

The PIRAT STAR will have three en route transition, PAINT, ALCOA, and CINNY. The CINNY transition mimics the existing Pacific 2 TA segment(s) CINNY-PIRAT- BRINY-OSI. The ALCOA transition mimics the existing BUTEN-ALCOA-BRINY-OSI segment on the Pacific 2 TA. The PAINT transition mimics the existing DACEM-BRINY-OSI segment on the Pacific 2 TA. Oakland Air Route Traffic Control Center (ZOA) requested a route north of the waypoint PAINT developed for offloads that the Traffic Management Unit (TMU) could utilize during periods of concentrated demand. Waypoint WUSUS is the proposed start point for the offload route.

Figure 4. Pacific 2 Tailored Arrival and the Proposed PIRAT STAR



Red = Existing Pacific 2 TA

Green = Proposed PIRAT STAR

Table 6 shows the anticipated traffic and aircraft mix based on the 2017 Track Data on each transition on the proposed PIRAT STAR. The WUSUS transition is not included because it is intended for overflow traffic.

Table 6. Estimated Operations on the Proposed PIRAT STAR

	Heavy Jets				Large Jets				Small Jets				Turboprops			
	Day		Night		Day		Night		Day		Night		Day		Night	
Transition	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual
CINNY	8.48	3095	4.64	1684	7.33	2647	7	2530	0.41	151	0.04	14.6	0.01	4.9	-	-
ALCOA	5.63	2044	.87	316.2	0.73	268	0.5	185.3	-	-	-	-	-	-	-	-
PAINT	7.61	2774	0.48	175.2	0.08	29.2	-	-	-	-	-	-	-	-	-	-

Appendix 5. Air Traffic Initial Environmental Review

1. Will there be actions affecting changes in aircraft flights between the hours of 10 p.m. – 7 a.m. local?
   ☒Yes ☐No
   Aircraft would continue to fly the amended procedures and the route of the new PIRAT RNAV STAR; published airline-specific schedules are not expected to change.

2. Is a preferential runway use presently in effect for the affected airport(s), formal or informal?
   ☒Yes ☐No

   The preferred runway for arrivals during both Daytime (0700 – 2200 local time) and Nighttime (2200 – 0700 local time) is RWY 28L/R and using the QUIET BRIDGE CVFP[11].

   For departures, the preferred runway for Daytime (0700 – 2200 local time) is RWY 01L/R. For Nighttime departures (2200 – 0700 local time), the preferred runway is RWY 10L/R.

   The Nighttime Preferential Runway Use programme aims to maximize flights over water and minimize flights over land and populated areas between 0100 and 0600 (local time), thus reducing nighttime noise in the airport surrounding communities.

   The noise abatement information published on whispertrack[12] lists the noise sensitivity of the Airport area as "High", noting that the overall goal of the Fly Quiet Program is to influence airlines to operate as quietly as possible in the San Francisco Bay Area.

3. Will airport preferential runway configuration use change as a result of the proposed project?
   □ Yes ☒No

4. Is the proposed project primarily designed for Visual Flight Rules (VFR), Instrument Flight Rules (IFR) operations, or both?
   ☐VFR ☒IFR ☐ Both

[11] Noise Abatement Procedures by Whispertrack. http://whispertrack.com/airports/KSFO
[12] https://whispertrack.com/airports/KSFO

If this specifically involves a charted visual approach (CVA) procedure, provide a detailed local map indicating the route of the CVA, along with a discussion of the rationale for how the route was chosen. N/A

5. Will there be a change in takeoff power requirements?
   ☐Yes ☒No

   If so, what types of aircraft are involved, i.e., general aviation propeller-driven versus large air carrier jets? N/A

6. Will all changes occur above 3,000 feet above ground level (AGL)?
   ☒Yes ☐ No

   What is the lowest altitude change on newly proposed routes or on existing routes that will receive an increase in operations?

   An increase in operations is not anticipated.

7. Will there be actions involving civil jet aircraft (heavier than 75,000 pounds gross weight) arrival procedures between 3,000-7,000 feet AGL or departures between 3,000-10,000 feet AGL?
   ☒Yes ☐No

   Civilian jet aircraft are currently flying and would continue to fly the procedures proposed for amendment. The number of operations and aircraft mix are not expected to change. The number of aircraft that would fly each transition on the new PIRAT STAR is not expected to change from the number of operations and aircraft fleet mix based on the 2017 Track Data (Refer to Table 6 above).

8. If noise analysis was already performed using the FAA's Aviation Environmental Design Tool (AEDT), Aviation Environmental Screening Tool (AEST), TARGETS Environmental Plug-In, Integrated Noise Model (INM), or Noise Integrated Routing System (NIRS), provide a summary of the results (and/or attach a copy of the noise screening analysis results).

   The FAA Air Traffic Organization (ATO) established a noise screening process to help determine the need for a detailed noise analysis of air traffic actions. The MITRE Corporation's Center for Advanced Aviation System Development prepared a guidance document to assist the FAA and others involved in proposed air traffic actions with a solid and repeatable approach to noise screening (MITRE Guidance).[13]

[13] MITRE. Guidance for Noise Screening of Air Traffic Actions. December 2012.

The MITRE Guidance document provides an overview of the noise screening process, which can be used to determine the potential for noise impacts related to most air traffic actions. The MITRE Guidance provided conforms to the FAA Order 1050.1; consistent with NEPA and the CEQ regulations, FAA adjusts the level of environmental review to the expected level of impact of a proposed action. For example, FAA Order 1050.1F contains a list of air traffic actions, which normally do not result in significant impacts to the environment (CATEX), and therefore do not require the preparation of an EA or EIS. One of the requirements for a CATEX determination is to ensure that there are no extraordinary circumstances as defined in FAA Order 1050.1F. The noise screening process provides an approach to identify extraordinary circumstances and/or the potential for significant impacts associated with noise impacts of proposed air traffic actions for fixed-wing aircraft. The process is based on currently approved FAA tools and policies.

Noise screening trades modeling precision for a simplified process when and where possible. The simpler noise screening techniques provide conservative results very quickly, whereas the most complex modeling tools provide more precise results, but take more time and require more data. The screening tests have been constructed to minimize the risks of false-negative results, i.e., an action potentially causing significant noise impacts passing the noise screening process. Passing noise screening implies that the potential for significant impacts and/or extraordinary circumstances due to aircraft noise is negligible, and a CATEX is appropriate. The noise screening documentation can be used to the support the CATEX determination.

Noise screening is required for arrivals below 7,000 feet above ground level (AGL) and departures below 10,000 feet AGL. These limits increase to 18,000 feet AGL over national parks or wilderness areas. Air traffic actions could include route or procedure route or procedure utilization changes, vertical profile changes, and Performance-Based Navigation (PBN) procedures including:

"Changing jet arrival traffic position, altitude, or volume between 500 feet above ground level (AGL) and 10,000 feet AGL." [14]

The FAA noise screening Aviation Environmental Screening Tool (AEST) version 1.4, which supercedes the NIRS[15] Screening Tool, was used to complete the analysis of potential effects due to change in the aircraft noise exposure level. AEST incorporates the noise pre-screening tools in the FAA Guidance for Screening of Air Traffic Actions.

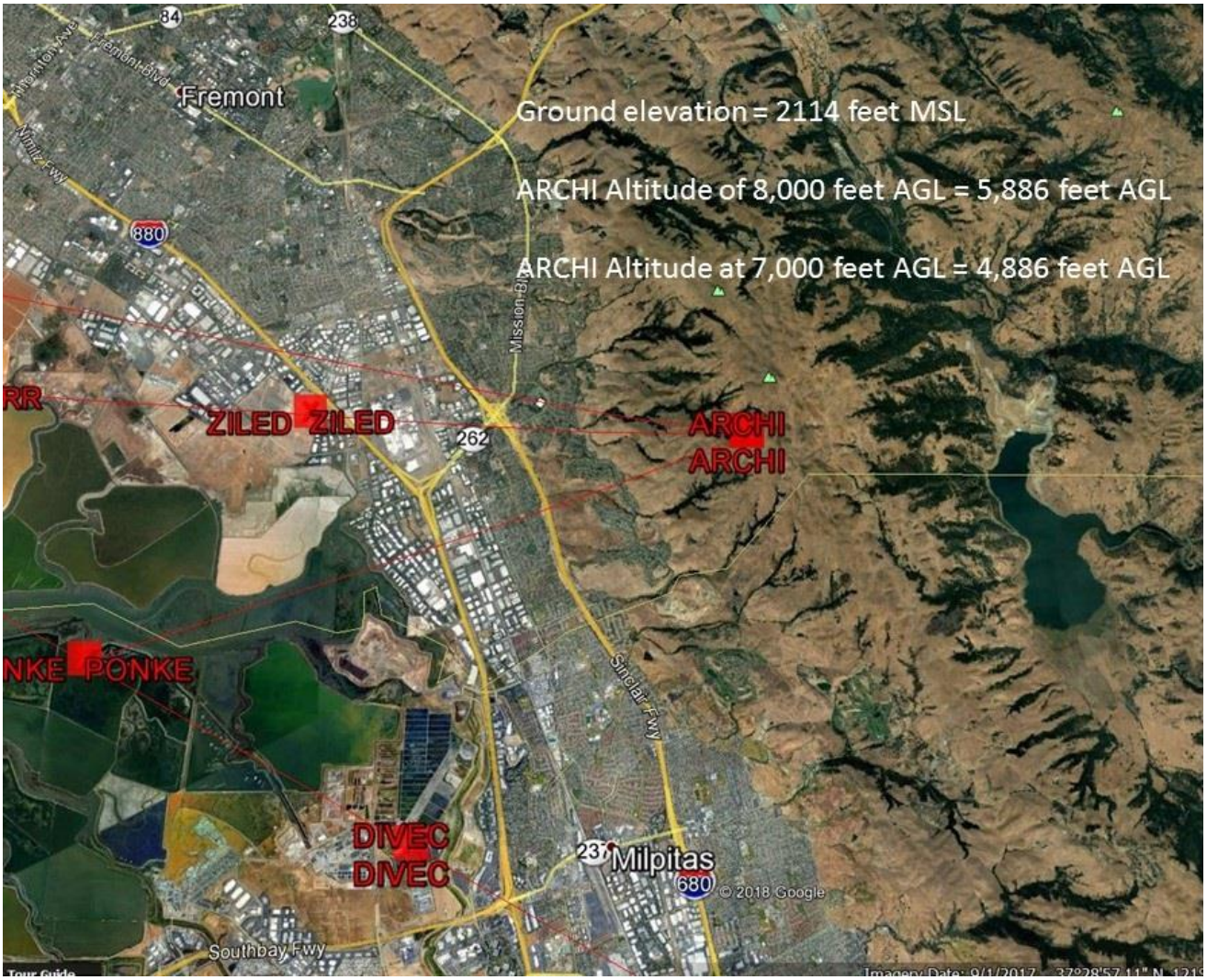
The Altitude/Operations Test (A/O Test) is a tool to determine if changes in the number of operations or altitudes or both are enough to cause a change in noise exposure levels exceeding the noise screening thresholds. This test applies to both jet and/or propeller

[14] MITRE Guidance for Noise Screening of Air Traffic Actions. December 2012.
[15] Noise Integrated Routing System (NIRS)

traffic. The proposed action failing this test is an indication that the potential exists for extraordinary circumstances above 3,000 feet AGL or significant impacts at or below 3,000 feet AGL. The change in altitude at ARCHI was evaluated using the A/O Test (Figure 5). The number of operations is not expected to change; therefore, the A/O Test evaluated the change in altitude from 8,000 feet MSL/5,886 feet AGL to 7,000 feet MSL/4,886 feet AGL.

The results of the A/O Test noise screening results indicated that potential noise impacts are not expected due to the lateral movement of the fix; therefore, further noise screening is not required (Attachment 3).

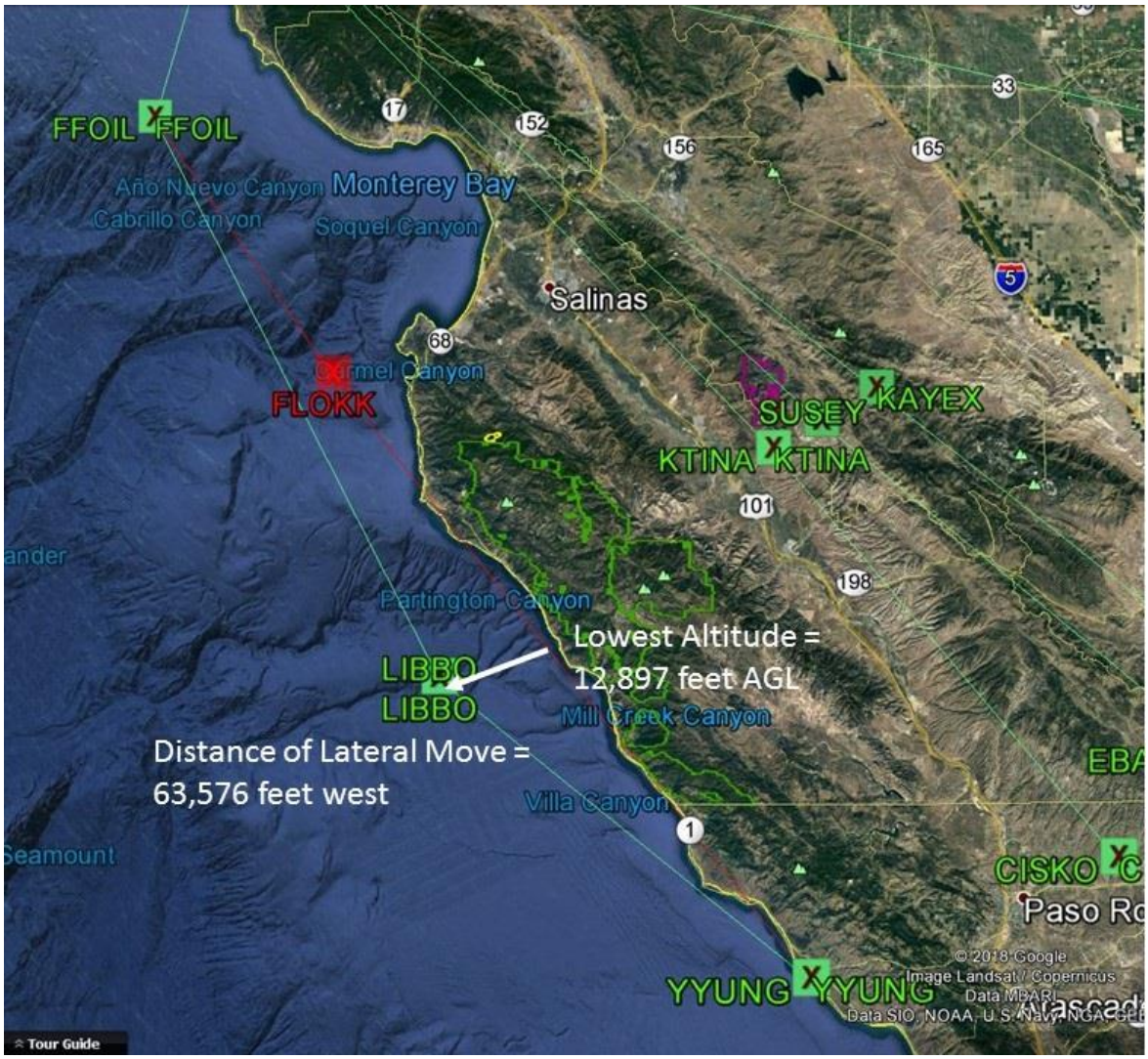
Figure 5. ARCHI Waypoint



The waypoint LIBBO (New) is located approximately 63,576 feet west of the segment between FFOIL and YYUNG (Figure 6). The lowest altitude specified in Above Ground Level (AGL) flown along the changed portion of the procedure is approximately 12,897 feet AGL. Noise screening is not required for changes to departure procedures above 10,000 feet AGL or arrival procedures above 7,000 feet AGL.[16]

[16] MITRE Guidance for Noise Screening of Air Traffic Actions. December 2012.

Figure 6. Addition of LIBBO and Lateral Movement of the FFOIL-YYUNG Segment to the West



Purpose and Need

A. Describe the purpose and need for the proposed project. If detailed background information is available, summarize here and provide a copy as an attachment to this review.

The crossing restriction at the ARCHI waypoint on the DYAMD STAR and connecting IAPs was raised from 7,000 feet mean sea level (MSL) to AT 8,000 feet MSL in January 2016. The speed restriction of AT 230 knots (K) at ARCHI was added to all connecting IAPs as well. The amendments were implemented in response to aircraft excursions into and out of Class B

airspace. An excursion is an event describing an aircraft dropping out of Class B airspace and then re-entering Class B airspace. Excursion data was compiled from PDARS on a daily basis for KSFO. Concurrently, the Class B airspace was undergoing redesign to contain arrival and departure paths, both lateral and vertical, within the Class B airspace. The change in altitude was to keep traffic within Class B airspace until the redesigned airspace was implemented (effective August 2018). To conform to the redesigned Class B airspace, the crossing restriction at ARCHI would be lowered from AT 8,000 feet MSL to AT 7,000 feet MSL.

The existing Pacific 2 TA, a private arrival procedure, would be replaced by the new PIRAT RNAV STAR for use by oceanic airlines for arrival into KSFO. The oceanic arrivals converging into the congested domestic airspace need to be procedurally separated and sequenced into the arrival flow at the destination airport to ensure aircraft operations remain safe and efficient without increasing pilot and controller workload. The PIRAT RNAV STAR would be an Optimized Profile Descent (OPD) STAR, requiring aircraft to cross ARGGG, which is near the WOODSIDE VOR (OSI), AT 8,000 feet MSL or approximately 5,820 feet AGL.

B. What operational/ benefits will result if this project is implemented?

The Pacific 2 Tailored Arrival is currently in use as a test procedure with selected carriers. The procedure is beneficial for users but cumbersome for ATC to issue in its current form. ATC requested an RNAV STAR that converts the Pacific 2 Tailored Arrival to a public RNAV STAR that expands the benefits of the Tailored to all users of KSFO. The new STAR would enhance flows and accessibility to KSFO and KOAK for all arrivals from the Pacific. RNAV STAR usage is very high for KSFO; currently there is no RNAV STAR that provides access to KSFO from oceanic routes.

1. If a delay reduction is anticipated, can the reduction be quantified?
   ☐Yes ☐No ☒ N/A

2. Can reduced fuel costs/natural energy consumption be quantified?
   ☐ Yes ☐ No ☒N/A

   If not quantifiable, describe the approximate anticipated benefits in lay terms.

C. Is the proposed project the result of a user or community request or regulatory mandate?
   ☒Community Request ☐Regulatory Mandate

   If not, what necessitates this action?

Describe the Affected Environment

A. Provide a description of the existing land use in the vicinity of the proposed project.

As described in the Part 150 Study[17] update for KSFO, the airport is located in eastern San Mateo County, California and is owned by the City and County of San Francisco (CCSF) and operated by and through the San Francisco Airport Commission (Airport Commission). KSFO is located approximately 13 miles south of downtown San Francisco. The active operations area at KSFO is bordered by the San Francisco Bay to the east and U.S. Highway 101 (U.S. 101) to the west and south. The Airport is surrounded by the cities of Millbrae and Burlingame (to the south), San Bruno (to the west), and South San Francisco (to the north).

Generalized planned land uses within the immediate vicinity of KSFO consist primarily of commercial and industrial uses including transportation and utility infrastructure. Single- and multi-family residential uses are the predominant planned land uses in areas west of U.S. 101. San Mateo County and its incorporated jurisdictions also provide for a substantial amount of open space, park, and recreation areas; the most prominent of which includes the Golden Gate National Recreation Area in western San Mateo County, the San Bruno Mountains, and miles of shoreline along both the San Francisco Bay and the Pacific Ocean. With the Bay Area's strong emphasis on technology, large portions of San Mateo County and its cities are also designated for professional office, research and development, and light industrial uses.

DYAMD STAR

The DYAMD STAR provides the en route transition from flights approaching from the east to the arrival procedures to KSFO. The two transitions, INYOE and RUSME, connect to DYAMD and then to the fix ARCHI. ARCHI then connects the DYAMND STAR to the IAPs to KSFO. The INYOU transition overflies the Granite Mountain and Ansel Adams Wilderness Areas; the RUSME transition overflies the White Mountain Wilderness Area (Figure 7). Both transitions overfly the Yosemite National Park (Figure 7). These areas are overflown at altitudes of approximately 12,697 feet AGL and higher. Additionally, the DYAMD STAR directs aircraft to overfly Important Bird Areas (IBAs) as designated by the Audubon Society (Figure 8 and 9). IBAs are locations that have been identified as critical areas for sustaining bird life. Critical Habitat for the California Red-legged Frog is overflown in the area between CEDES and FRELY (Figure 14). The only amendment to the DYAMD STAR and associated IAPs and CVFP is lowering of the

[17] ESA and BridgeNet. San Francisco International Airport. 14 CFR Part 150 Study Update Noise Exposure Map Report. Final. August 2015.

altitude at ARCHI from 8,000 feet MSL/5,886 feet AGL to 7,000 feet MSL/4,886 feet AGL. The proposed amendment would not change flight tracks.

STANDARD INSTRUMENT DEPARTURE PROCEDURES

The SSTIK, WESLA and CNDEL RNAV SIDs all cross the San Francisco area, with land use transitioning from industrial to residential along the flight path to the southwest. The flight path continues over the San Francisco State Fish and Game Refuge (Figure 10), the Golden Gate National Recreation Area (Figure 11), the city of El Granada, and then over the Pacific Ocean to the PORTE fix. From the PORTE fix, the flight path heads southwest at which point it splits into three transitions, NTELL, LOSHN, and EBAYE, overflying the Santa Cruz Mountains. The land use along the ground track of the three transitions is sparsely populated mountainous terrain, areas of agricultural activities and pockets of residential use. The forth transition, YYUNG, connects from PORTE to FFOIL, continuing southeast over the Pacific Ocean to YYUNG. These transitions serve aircraft en route to destinations to the south, southwest, and southeast. The EBAYE transition overflies the Pinnacles National Monument and the Hain Wilderness Area at an altitude approximately 7,371 feet AGL (Figure 12). The three SIDs also overfly IBAs as shown in Figure 13. The segments between WESLA/SSTIK/CNDEL and PORTE overfly Critical Habitat for the California Red-legged Frog (Figure 14)

Only the YYUNG transition on the three SIDs would be amended and is discussed later in this document. Flight paths would not change for the NTELL, LOSHN, and EBAYE transitions.

Figure 7. DYAMD STAR. INYOE and RUSME Transitions

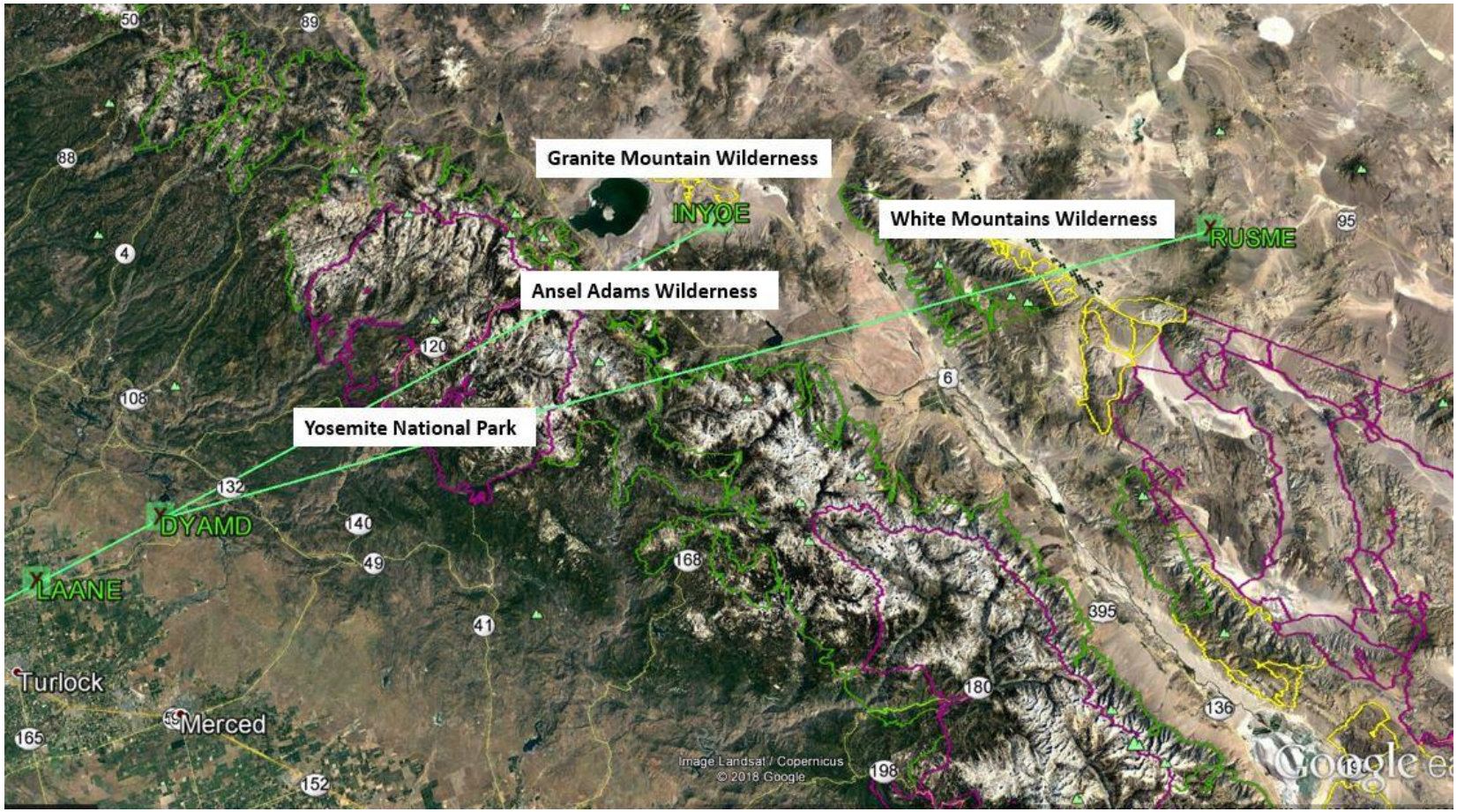


Figure 8. DYAMD STAR. Important Bird Areas

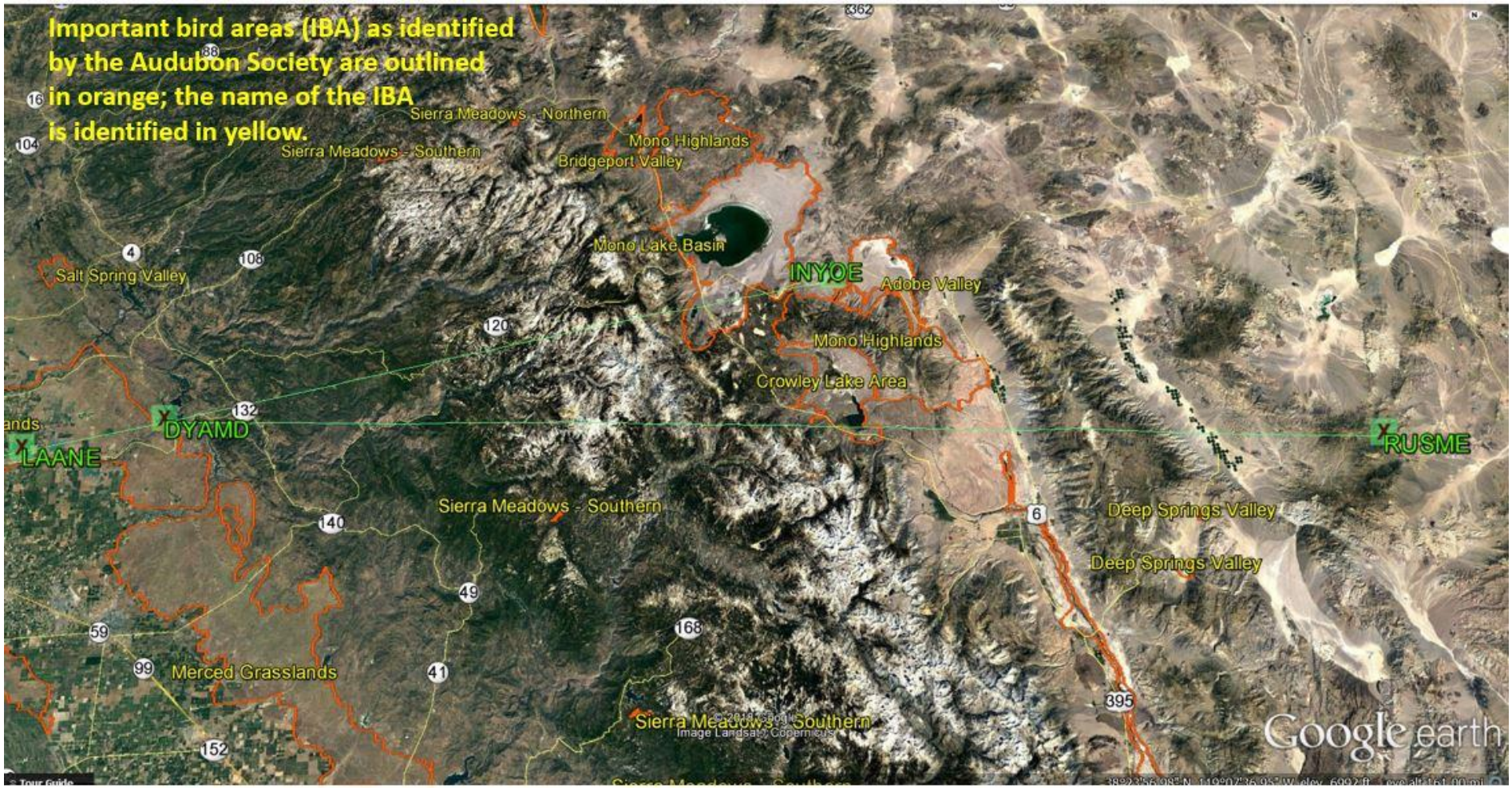


Figure 9. DYAMD STAR. Important Bird Areas

Figure 10. WESLA, SSTIK, and CNDEL. San Francisco State Fish and Game Refuge

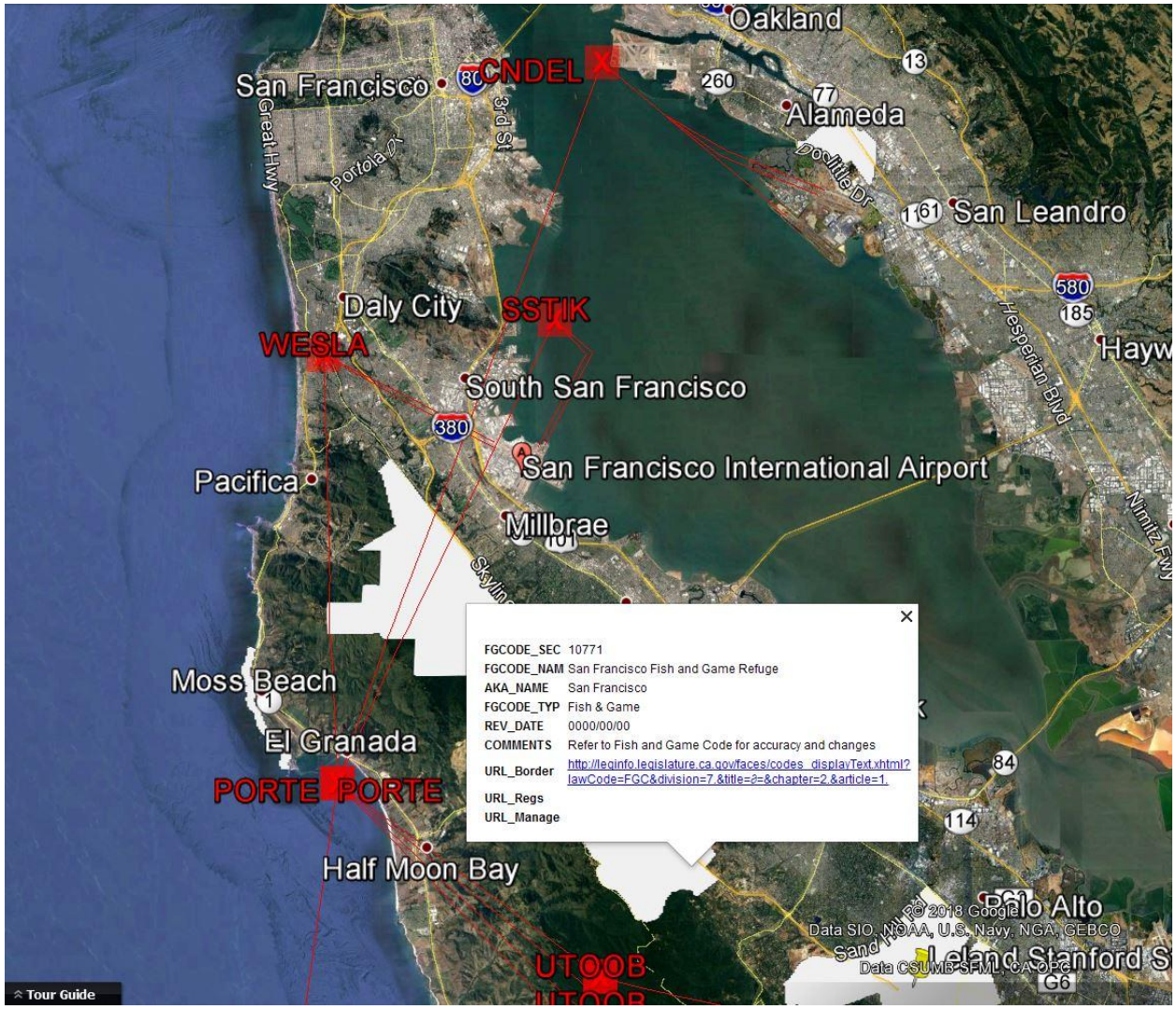


Figure 11. WESLA, SSTIK, and CNDEL. Golden Gate National Recreation Area

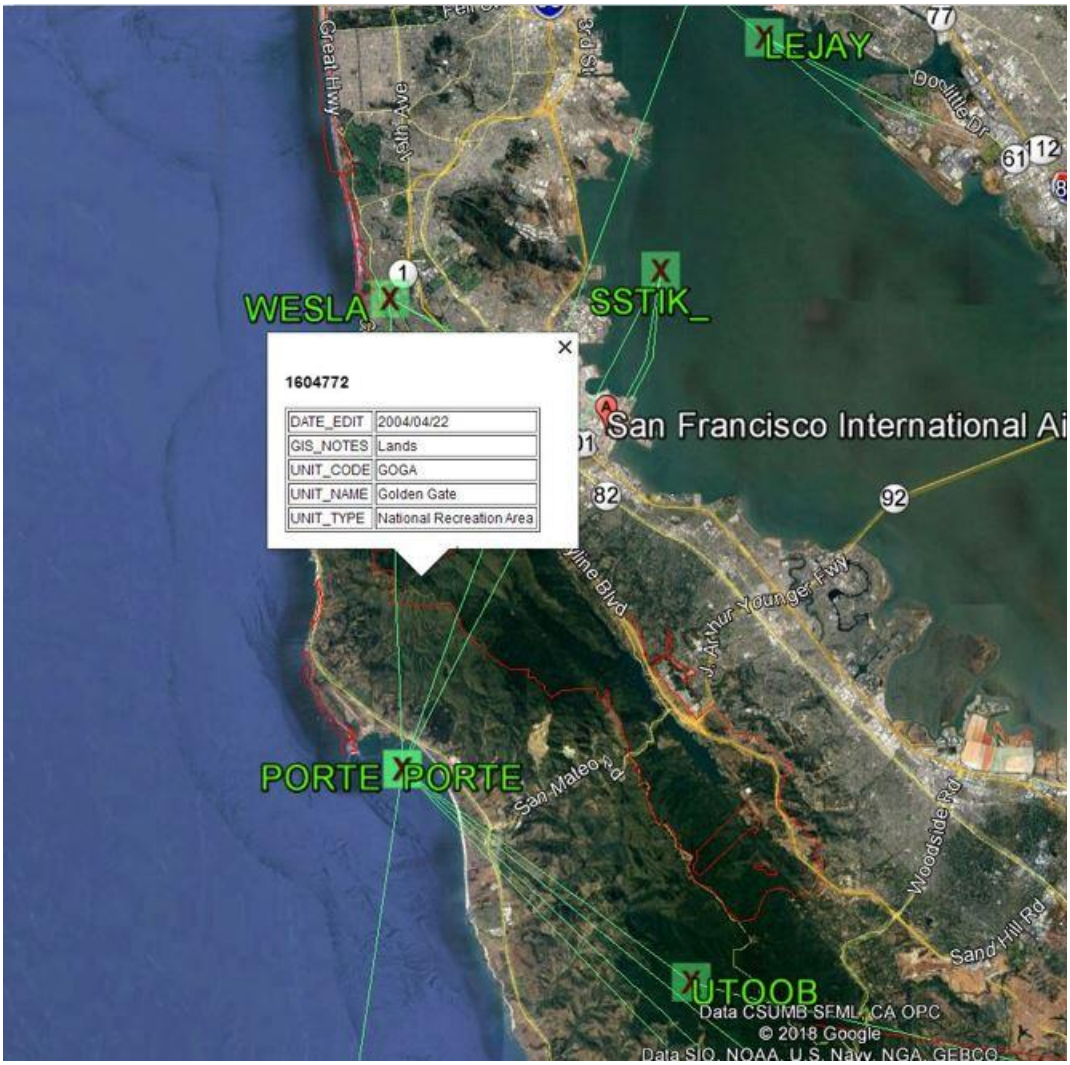


Figure 12. EBAYE Transition. Pinnacles National Monument and Hain Wilderness

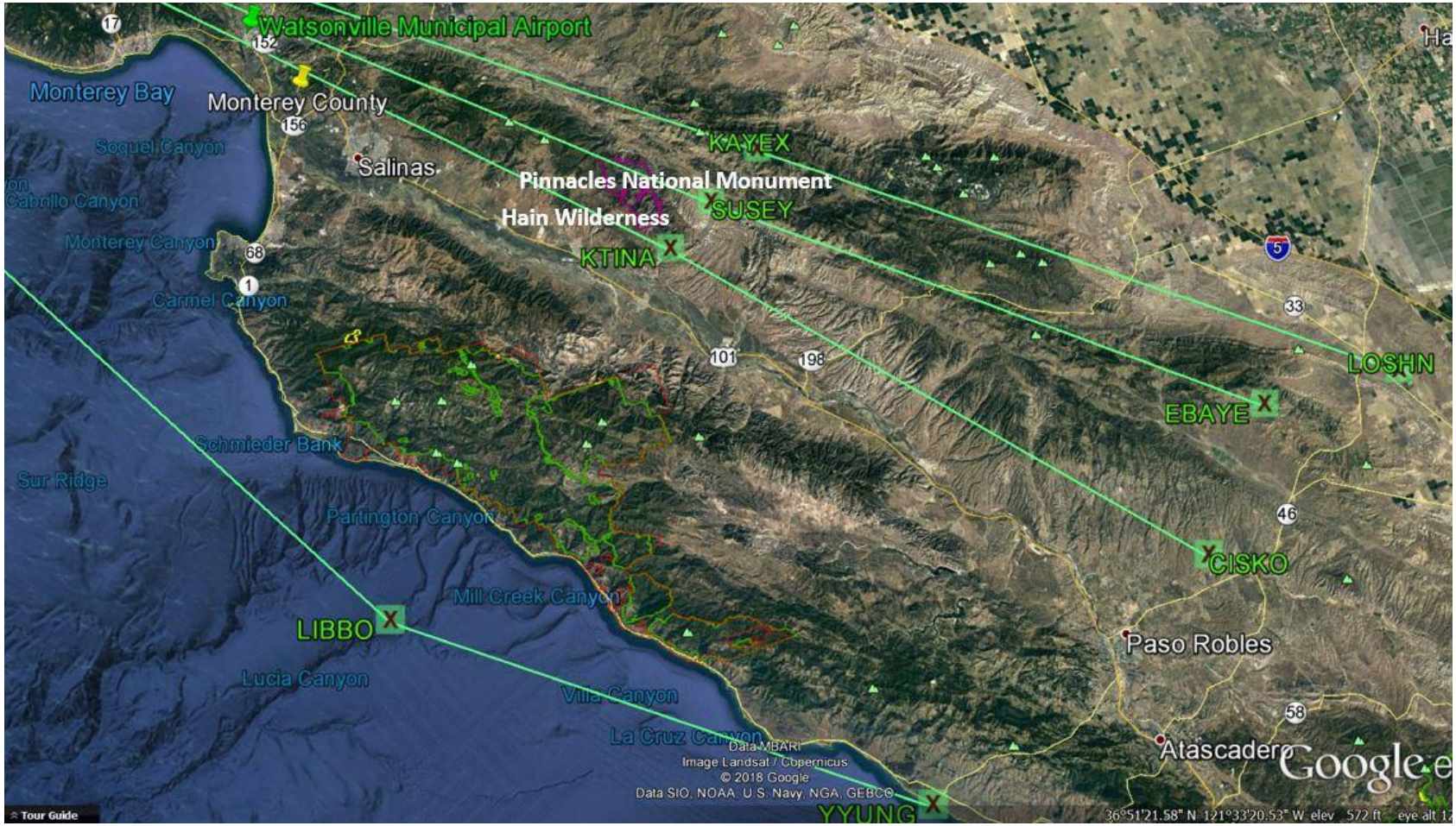
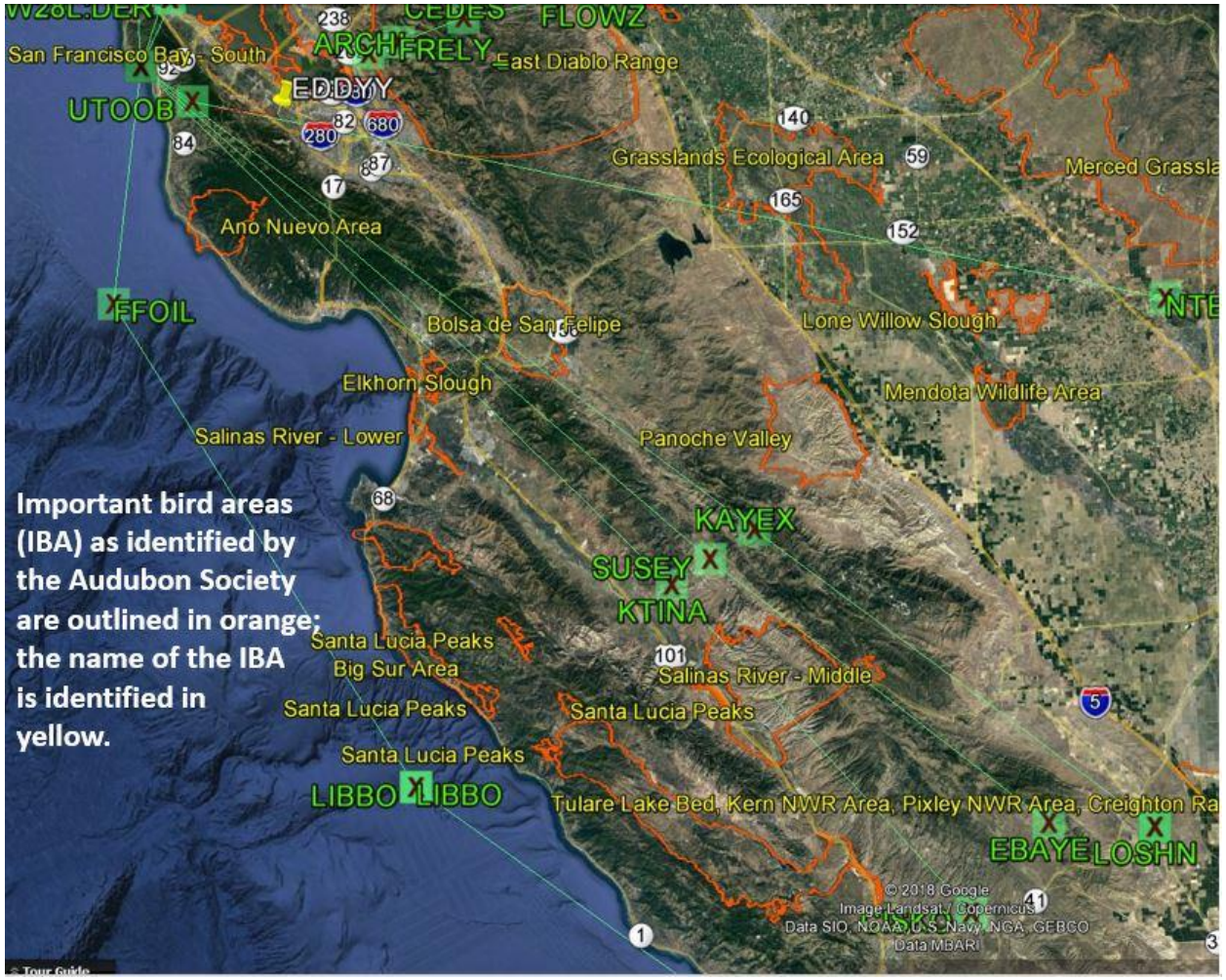


Figure 13. WESLA, SSTIK, and CNDEL. Important Bird Areas.



B. Will the proposed project introduce air traffic over noise sensitive areas not now affected?

☐Yes ☒No

Note: An area is noise sensitive if aircraft noise may interfere with the normal activities associated with the use of the land. Normally, noise sensitive areas include residential, educational, health, and religious structures and sites, and parks, recreational areas, areas with wilderness characteristics, wildlife refuges, and cultural and historical sites. See FAA Order 1050.1 [Paragraph 11-5.b.(1)] for full definition of noise sensitive areas.

The amendments to the DYAMD STAR and associated IAPs would not change flight paths. Aircraft would not overfly any new areas.

With the exception of the YYUNG transition on the WESLA, SSTIK, and CNDEL SIDs, flight paths would not change for the NTELL, LOSHN, EBAYE, and CISKO transitions on the three SIDs. The NTELL, LOSHN, EBAYE, and CISKO transitions would not be amended. The addition of the waypoint LIBBO would move the FFOIL-YYUNG segment to the west of its current ground track. The amended segment would move the track further west over water.

The proposed PIRAT STAR mimics the existing Pacific 2 TA.

B. Affected Environment and Consequences

The determination of whether a proposed action may have a significant environmental effect is made by considering any requirements applicable to the specific resource [see FAA Order 1050.1, paragraph 4-3. and Exhibit 4-1.]. Will implementation of the proposed project result in any extraordinary circumstances[18]? As stated in FAA Order 1050.1, paragraph 5-2.b., extraordinary circumstances exist when a proposed action involves any of the following circumstances AND has the potential for a significant effect [40 CFR 1508.4).

The use of a CATEX to satisfy NEPA is precluded if the proposed action involves any of the circumstances described in Order 1050.1F, Paragraph 5-2(b) and may have a significant impact. The determination of whether a proposed action may have a significant environmental impact under NEPA is made by considering the relevant environmental impact categories and comparing impacts to the FAA's thresholds of significance, where applicable, as well as any other relevant federal laws and statutes, Executive Orders, and regulations as outlined in with FAA Order 1050.1F.

There are 14 environmental impact categories identified by FAA Order 1050.1F. Only those areas where there may be significant environmental impacts caused by the proposed action, or where there are uncertainties which require evaluation are discussed in this document.

[18] Extraordinary circumstances are factors or circumstances in which a normally categorically excluded action may have a significant environmental impact that then requires further analysis in an EA or an EIS. For FAA proposed actions, extraordinary circumstances exist when the proposed action involves any of the circumstances described in Order 1050.1F, Paragraph 5-2(b). and may have a significant impact.

The Proposed Action does not involve land acquisition, physical disturbance, or construction activities.

B1. Wildlife and Waterfowl: Endangered/Threatened Species; Critical Habitat

Exhibit 4-1 of FAA Order 1050.1F provides the FAA's significance threshold for biological resources (including fish, wildlife, and plants). A significant impact to biological resources would occur when: *The U.S. Fish and Wildlife Service or the National Marine Fisheries Service determines that the action would be likely to jeopardize the continued existence of a Federally-listed threatened or endangered species, or would result in the destruction or adverse modification of federally-designated critical habitat.* The FAA has not established a significance threshold for non-listed species.

In addition to the threshold above, Exhibit 4-1 of FAA Order 1050.1F provides additional factors to consider in evaluating the context and intensity of potential environmental impacts for biological resources. Please note that these factors are not intended to be thresholds. If these factors exist, there is not necessarily a significant impact; rather, the FAA must evaluate these factors in light of context and intensity to determine if there are significant impacts. Factors to consider that may be applicable to biological resources include, but are not limited to, situations in which the proposed action or alternative(s) would have the potential for:

• A long-term or permanent loss of unlisted plant or wildlife species, i.e., extirpation of the species from a large project area (e.g., a new commercial service airport);

• Adverse impacts to special status species (e.g., state species of concern, species proposed for listing, migratory birds, bald and golden eagles) or their habitats;

• Substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or their populations; or

• Adverse impacts on a species' reproductive success rates, natural mortality rates, non-natural mortality (e.g., road kills and hunting), or ability to sustain the minimum population levels required for population maintenance.

Are wildlife and/or water fowl refuge/management areas within the affected area of the proposed project?

☒ Yes ☐No

The segment between BRINY and ARGGG on the proposed PIRAT STAR would overfly Critical Habitat for the California Red-legged Frog (*Rana draytonii*) which is Federally listed as Threatened (Figure 14). The YYUNG waypoint is located approximately 0.11 nautical miles west of the Critical Habitat for the California Red-legged Frog (Figure 15).

Critical Habitat for Steelhead Trout (*Oncorhynchus (=Salmo) mykiss*) which is Federally listed as Threatened is located throughout the region. Procedures, both existing and proposed, overfly Critical Habitat of the Steelhead Trout (Figure 16).

If so, has there been any communication with the appropriate wildlife management regulatory (federal or state) agencies to determine if endangered or protected species inhabit the area?
☐ Yes ☒ No

Information was obtained from readily available online sources such as the U.S. Fish and Wildlife Service (USFWS) website Critical Habitat Mapper (https://www.fws.gov/refuges/) and the California Department of Fish and Wildlife website (https://www.wildlife.ca.gov/).

An impact on natural, ecological or scenic resources of Federal, Tribal, State, or local significance (for example, Federally listed or proposed endangered, threatened, or candidate species or proposed or designated critical habitat under the Endangered Species Act) [see FAA Order 1050.1, paragraph 5-2.(3)].
☐Yes ☒ No ☐ Possibly

1. *At what altitude would aircraft overfly these habitats?*
   The proposed PIRAT STAR would overfly these habitats at altitudes ranging between approximately 7,896 to 6,782 feet AGL.

2. *During what times of the day would operations be more/less frequent?*
   Overflights may occur during both daytime and nighttime.

Figure 14. Critical Habitat for the California Red-legged Frog

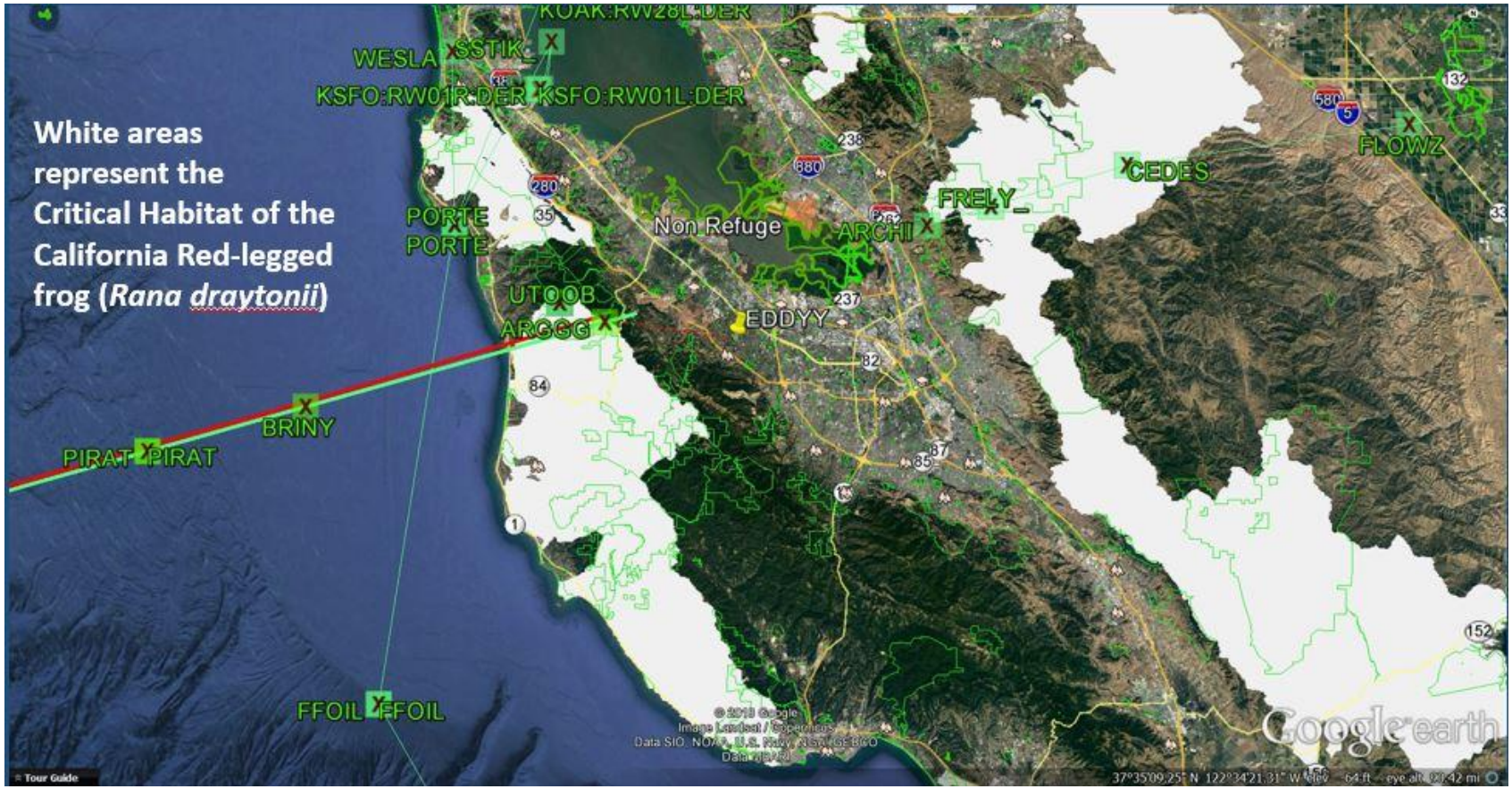


Figure 15. Critical Habitat for the California Red-legged Frog

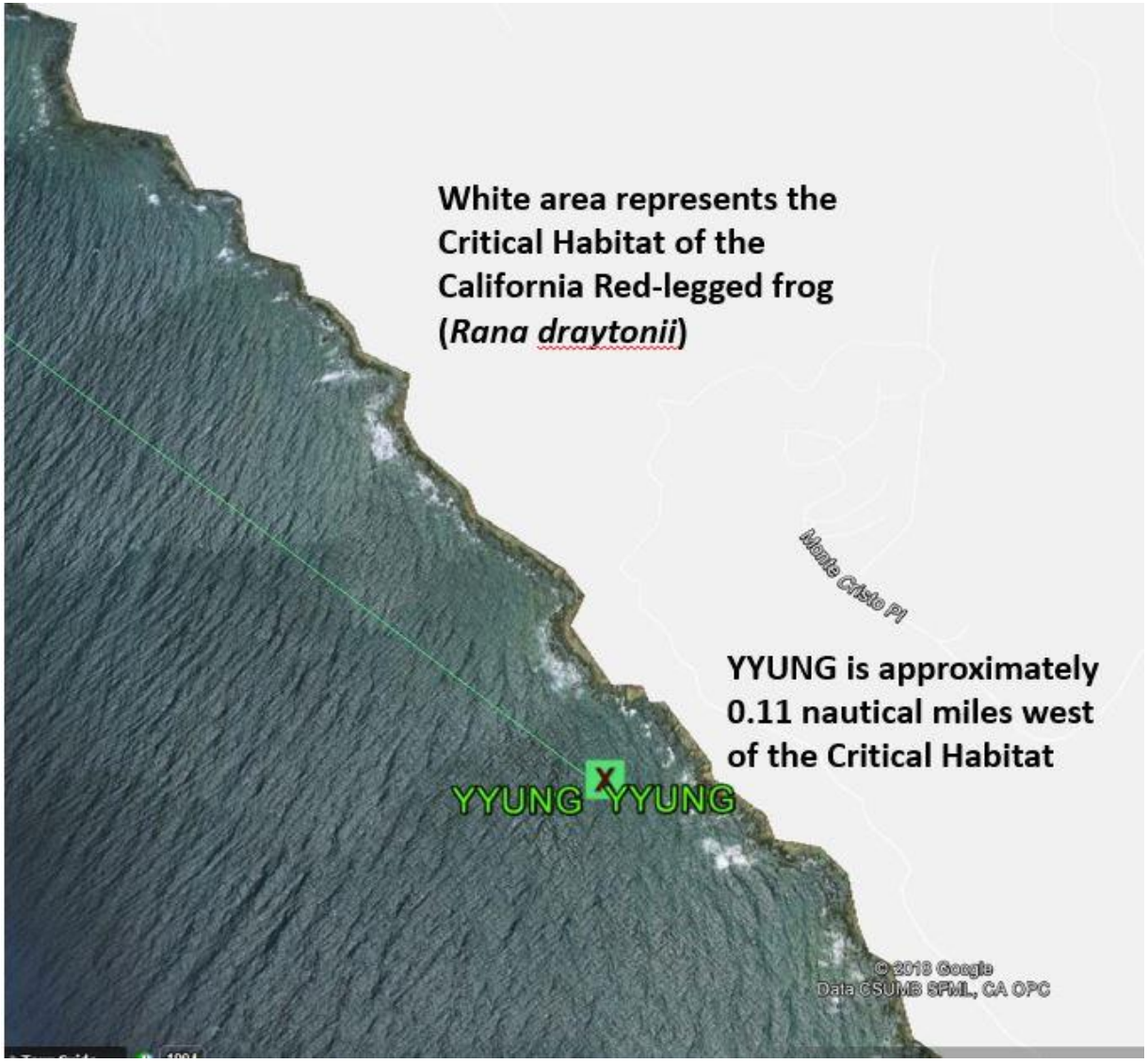
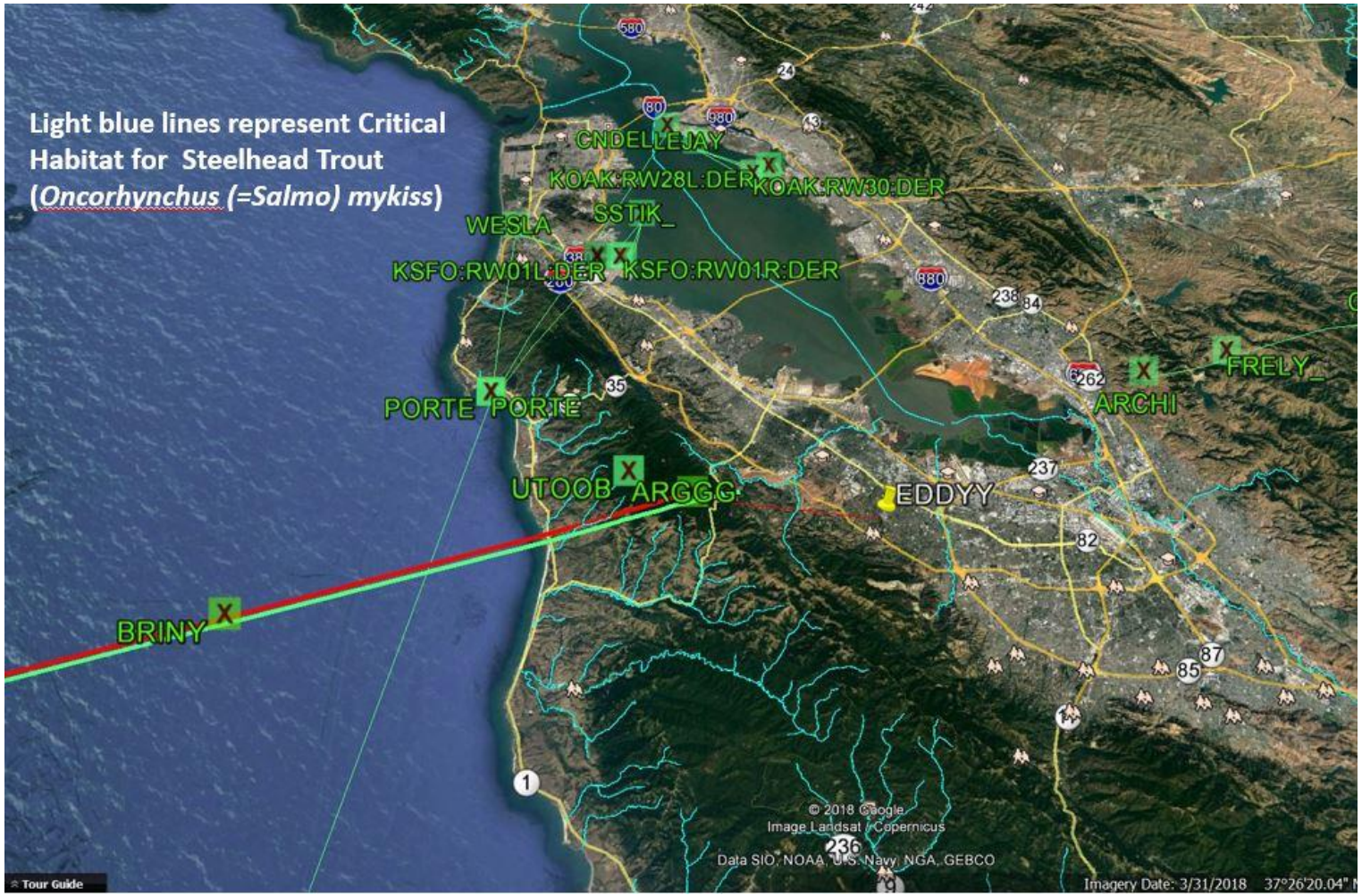


Figure 16. Critical Habitat for the Steelhead Trout



B2. An impact on the following resources: resources protected by the Fish and Wildlife Coordination Act; wetlands; floodplains; coastal zones; national marine sanctuaries; wilderness areas; National Resources Conservation designated prime and unique farmlands or, State, or locally important farmlands; energy supply and natural resources; resources protected under the Wild and Scenic Rivers Act, including study or eligible river segments; rivers or river segments listed on the Nationwide Rivers Inventory (NRI); and solid waste management [see FAA Order 1050.1, paragraph 5-2(4)].

This section addresses several environmental impact categories (EIC) as identified in FAA Order 1050.1F:

EIC 4: Coastal Resources

- coastal zones
- coastal wetlands
- floodplains
- fish and wildlife and their respective habitats within these areas

The Proposed Action does not involve land acquisition, physical disturbance, or construction activities.

The segment between LIBBO and YYUNG on the amended YYUNG transition for the WESLA, SSTIK, and CNDEL SIDs overflies the California Sea Otter Game Refuge (Figure 17). With the exception of the California Sea Otter Game Refuge, the remaining subcategories of this EIC were assessed and considered to not be present or to have negligible or non-existent effects from the Proposed Action, and in accordance with CEQ regulations, did not warrant further analysis.

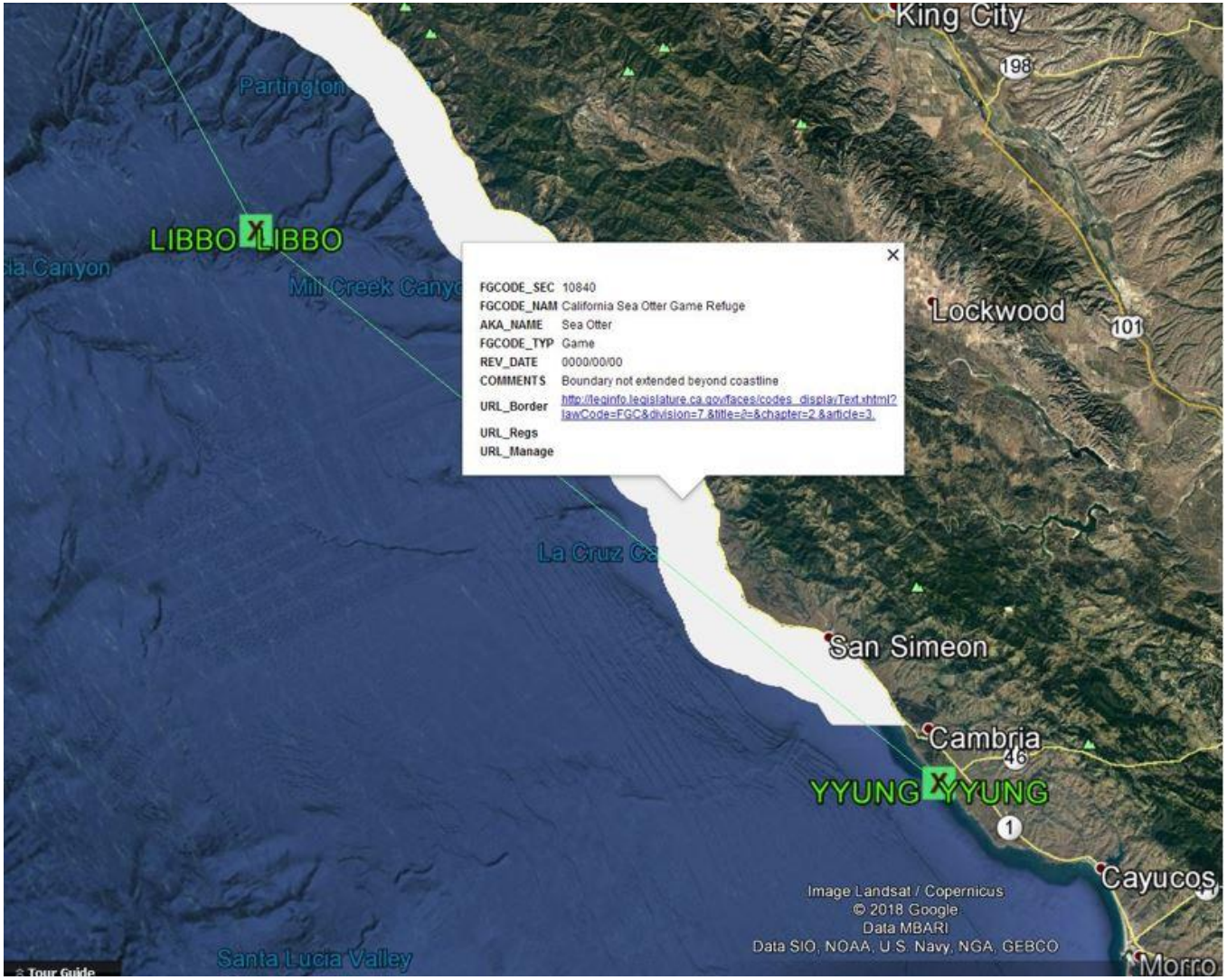
EIC 6: Farmlands

The Proposed Action does not involve land acquisition, physical disturbance, or construction activities. This EIC was assessed and was considered to not be present or to have negligible or non-existent effects from the Proposed Action, and in accordance with CEQ regulations, did not warrant further analysis.

EIC 7: Hazardous Materials, Solid Waste, and Pollution Prevention

The Proposed Action does not involve land acquisition, physical disturbance, or construction activities. This EIC was assessed and was considered to not be present or to have negligible or non-existent effects from the Proposed Action, and in accordance with CEQ regulations, did not warrant further analysis.

Figure 17. California Sea Otter Game Refuge



EIC 10: Natural Resources and Energy Supply

The Proposed Action does not involve land acquisition, physical disturbance, or construction activities. This EIC was assessed and was considered to not be present or to have negligible or non-existent effects from the Proposed Action, and in accordance with CEQ regulations, did not warrant further analysis.

EIC 11: Noise and Noise-Compatible Land Use

- wilderness areas

Noise and Noise-Compatible Land Use is covered later in this document.

EIC 14: Water Resources

- wetlands
- floodplains
- surface waters
- groundwater
- wild and scenic rivers

The Proposed Action does not involve land acquisition, physical disturbance, or construction activities. This EIC was assessed and was considered to not be present or to have negligible or non-existent effects from the Proposed Action, and in accordance with CEQ regulations, did not warrant further analysis.

B3. Section 4(f) Properties

Section 4(f) of the U.S. DOT Act of 1966 (now codified at 49 U.S.C. § 303) protects significant publicly owned parks, recreational areas, wildlife and waterfowl refuges, and public and private historic sites.

An impact on properties protected under Section 4(f) of the Department of Transportation Act is one of the factors FAA considers in determining whether there are extraordinary circumstances that would preclude use of a CATEX to satisfy NEPA requirements for a Proposed Action (EIC 5 in FAA Order 1050.1F). Section 4(f), as amended and re-codified at 49 U.S.C. § 303(c), states that, subject to exceptions for *de minimis* impacts[19]:

> … the Secretary [of Transportation] may approve a transportation program or project . . . requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or

[19] The term "highly controversial on environmental grounds" means there is a substantial dispute involving reasonable disagreement over the degree, extent, or nature of a Proposed Action's environmental impacts or over the action's risks of causing environmental harm. FAA Order 1050.1F. Section 5-2.b.(10).

> land of an historic site of national, State, or local significance,[20] (as determined by the officials having jurisdiction over the park, area, refuge, or site) only if . . . there is no feasible and prudent alternative to the use of such land…and the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

As noted above, the Proposed Action does not involve land acquisition, physical disturbance, or construction activities.

Are there cultural or scenic resources, of national, state, or local significance, such as national parks, publicly owned parks, recreational areas, and public and private historic sites in the affected area?

☒Yes ☐No

The segment between LIBBO and YYUNG on the amended YYUNG transition (WESLA, SSTIK, and CNDEL SIDs) is approximately 0.56 nautical miles east of the Piedras Blancas Light Station which is listed on the National Register of Historic Places (NPS Reference Number: 91001095) (Figure 18).

If so, during what time(s) of the day would operations occur that may impact these areas?

Aircraft on the YYUNG transition would not be directed to overfly the Piedras Blancas Light Station.

Will the proposed project result in an adverse effect on cultural resources protected under the National Historic Preservation Act of 1996, as amended (see 1050.1, paragraph 5-2.b.1.)?

☐Yes ☒No

No historic properties would be affected as a result of implementing the proposed amendments and the proposed new procedure as the proposed amendments would not direct aircraft to overfly the listed historic property.

[20] There is no prescribed format; however, the documentation should cite the CATEX(s) used, describe how the Proposed Action fits within the category of actions described in the CATEX, and explain that there are no extraordinary circumstances that would preclude the Proposed Action form being categorically excluded." FAA Order 1050.1F. Section 5-3.d.

Figure 18. Piedras Blancas Light Station

An impact on properties protected under section 4(f) of the Department of Transportation Act [see FAA Order 1050.1, paragraph 5-2.b.(2)].

☐Yes ☒No ☐Possibly

Exhibit 4-1 of FAA Order 1050.1F provides the FAA's significance threshold for Section 4(f) properties. A significant impact would occur when: The action involves more than a minimal physical use of a Section 4(f) resource (see Section 5.3.1 above) or constitutes a "constructive use" based on an FAA determination that the aviation project would substantially impair the Section 4(f) resource (see Section 5.3.2 above).4 A significant impact under NEPA would not occur if mitigation measures eliminate or reduce the effects of the use below the threshold of significance. If a project would physically use Section 4(f) property, the FAA is responsible for complying with Section 4(f) even if the impacts are less than significant for NEPA purposes.

The proposed amendments to procedures would not direct aircraft to overfly areas not currently overflown. The Proposed Action would not require the use of, impact to, any publicly owned land such as a public park, recreation area, wildlife or waterfowl refuge, or any land of national, state, or local significance. The Proposed Action would have no effect on Department of Transportation Section 4(f) resources.

B4. Air Quality

Air Quality is addressed in FAA Order 1050.1F as EIC 1. This section considers the potential for the Proposed Action to have impacts on air quality that could preclude use of a CATEX. Any air quality impacts would be the result of increased emissions from aircraft using the amended procedures as compared to the No Action alternative; there are no other emissions sources associated with the Proposed Action. No additional operations will result from the Proposed Action.

In the United States (U.S.), air quality is generally monitored and managed at the county or regional level. The U.S. Environmental Protection Agency (EPA) pursuant to mandates of the federal Clean Air Act, (42 U.S.C. § 7401 et seq. (1970)), has established the National Ambient Air Quality Standards (NAAQS) to protect public health, the environment, and quality of life from the detrimental effects of air pollution. Standards have been established for the following criteria air pollutants: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM), and sulfur dioxide (SO_2). Particulate Matter standards have been established for inhalable coarse particles ranging in diameter from 2.5 to 10 micrometers (μm) (PM_{10}) and fine particles less than 2.5 μm ($PM_{2.5}$) in diameter. The current NAAQs are listed in Table 7.

If concentrations of or more criteria pollutants in a geographic area is found to exceed the regulated or "threshold" level for one or more of the NAAQs, the area may be classified as a *nonattainment* area. Areas with concentrations of criteria pollutants that are below the levels established by the NAAQs are considered either *attainment* or unclassified areas. The Clean Air Act requires states to develop a general plan to attain and maintain the standards in all areas of the country and a specific plan to attain the standards for each area designated nonattainment. These plans are known as State Implementation Plans (SIPs). A SIP is a collection of regulations and documents used by a state, territory, or local air district to reduce air pollution in areas that do not meet NAAQS.

For areas of nonattainment, an air quality design value is assigned to the criteria pollutants out of compliance. A design value is a statistic that describes the air quality status of a given location relative to the level of the NAAQs. Design values are typically used in SIPs to designate and classify nonattainment areas, such as severe, moderate, or marginal, as well as to assess progress towards meeting the NAAQS[21].

[21] https://www.epa.gov/air-trends/air-quality-design-values#definition

Table 7. National Ambient Air Quality Standards

Pollutant		Primary/ Secondary	Averaging Time	Level
Carbon Monoxide (CO)		primary	8 hours	9 ppm (1971 standard)
			1 hour	35 ppm (1971 standard)
Lead (Pb)		Primary and secondary	Rolling 3 month average	0.15µg/m^3 (2008 standard)
Nitrogen Dioxide (NO_2)		primary	1 hour	100 ppb (2010 standard)
		primary and secondary	1 year	53 ppb (1971 standard)
Ozone (O_3)		primary and secondary	8 hours	0.070 ppm (2015 standard)
Particle Pollution (PM)	$PM_{2.5}$	primary	1 year	12.0 µg/m^3 (2013 standard)
		secondary	1 year	15.0 µg/m^3 (2013 standard)
		primary and secondary	24 hours	35 µg/m^3 (2013 standard)
	PM_{10}	primary and secondary	24 hours	150 µg/m^3 (2012 standard)
Sulfur Dioxide (SO_2)		primary	1 hour	75 ppb (2010 standard)
		secondary	3 hours	0.5 ppm (1991 standard)

Levels reflect the most recent NAAQ standard for the particular criteria pollutant.

Units of measure for the standards are parts per million (ppm) by volume, parts per billion (ppb) by volume, and micrograms per cubic meter of air (µg/m^3).[22]

[22] https://www.epa.gov/criteria-air-pollutants/naaqs-table

The YYUNG transition on the WESLA, CNDEL, and SSTIK SIDs overflies the San Luis Obispo County Air Pollution Control District. The ARCHI waypoint and the PIRAT STAR overfly the Bay Area Air Quality Management District.

The current attainment/nonattainment status of California in the counties identified above with respect to the NAAQs is found on EPA's website[23] (current as of May 13, 2018). The areas are currently in attainment with all NAAQS.

Under section 176(c)(4)) of the Clean Air Act (42 U.S.C. 7506(c)) and EPA regulations at 40 CFR Parts 51 and 93 (commonly referred to as the General Conformity Rule), the FAA must ensure that its activities do not cause or contribute to new violations of the NAAQS; worsen existing violations of the NAAQS or delay attainment of the NAAQS. When developing the General Conformity Rule, the EPA recognized that many actions conducted by Federal agencies do not result in substantial increases in air pollutant emissions in nonattainment and maintenance areas.

The General Conformity Rule also allows Federal agencies to develop a list of actions that are presumed to conform to a SIP. [24] This can be done by clearly demonstrating that the total of direct and indirect emissions from these types of activities would not cause or contribute to any new violation of any standard in any area; interfere with provisions in the applicable SIP for maintenance of any standard; increase the frequency or severity of any existing violation of any standard in any area; or delay timely attainment of any standard or any required interim emission reductions or other milestones in any area

An impact on air quality or a violation of local, State, Tribal, or Federal air quality standards under the Clean Air Act amendments of 1990 [see FAA Order 1050.1, paragraph 5-2.(8)].

☐Yes ☒No ☐Possibly

According to FAA Order 10501F, Exhibit 4-1, an emissions impact is significant if "[t]he action would cause pollutant concentrations to exceed one or more of the NAAQS, as established by the EPA under the Clean Air Act, for any of the time periods analyzed, or to increase the frequency or severity of any such existing violations."

The FAA's Presumed to Conform list includes "Air Traffic Control Activities and Adopting Approach, Departure and Enroute Procedures for Air Operations." Air traffic control activities are defined for this purpose as "actions that promote the safe, orderly, and expeditious flow of aircraft traffic, including airport, approach, departure, and en route air

[23] https://www3.epa.gov/airquality/urbanair/sipstatus/reports/ca_areabypoll.html
[24] 40 CFR 93.153(g)(h))

traffic control. Airspace and air traffic actions (e.g., changes in routes, flight patterns, and arrival and departure procedures) are implemented to enhance safety and increase the efficient use of airspace by reducing congestion, balancing controller workload, and improving coordination between controllers handling existing air traffic, among other things." FAA determined that project related aircraft emissions released into the atmosphere below the inversion base for pollutant containment, commonly referred to as the ''mixing height,'' (generally 3,000 feet above ground level) can be presumed to conform when modifications to routes and procedures are designed to enhance operational efficiency (i.e., to reduce delay), increase fuel efficiency, or reduce community noise impacts by means of engine thrust reductions.[25] This Presumed to Conform covers the Proposed Action.

B5. Water Resources

FAA Order 1050.1F addresses water resources under EIC 14.

Are there reservoirs or other public water supply systems in the affected area?

☒Yes ☐No

Approximately 85% of San Francisco's total water needs are provided by the Hetch Hetchy watershed, an area located in the Yosemite National Park west of San Francisco.

An impact on water quality, sole source aquifers, a public water supply system, or State or Tribal water quality standards established under the Clean Water Act and the Safe Drinking Water Act [see FAA Order 1050.1, paragraph 5-2.(9)].

☐Yes ☒No ☐Possibly

Exhibit 4-1 of FAA Order 1050.1F provides the FAA's significance threshold for surface waters. A significant impact exists if:
The action would:
1. Exceed water quality standards established by Federal, state, local, and tribal regulatory agencies; or
2. Contaminate public drinking water supply such that public health may be adversely affected.

Exhibit 4-1 of FAA Order 1050.1F provides the FAA's significance threshold for groundwater. A significant impact exists if:
The action would:
1. Exceed groundwater quality standards established by Federal, state, local, and tribal regulatory agencies; or
2. Contaminate an aquifer used for public water supply such that public health may be adversely affected.

[25] 72 Fed. Reg. 41578.

The Proposed Action does not involve land acquisition, physical disturbance, or construction activities. This EIC was assessed and was considered to not be present or to have negligible or non-existent effects from the Proposed Action, and in accordance with CEQ regulations, did not warrant further analysis.

B6. Community and Community Development

Community and community developed is addressed under EIC 12 in FAA Order 1050.1F: Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks; specifically under the "Socioeconomics" subsection.

Socioeconomics is an umbrella term used to describe aspects of a project that are either social or economic in nature. A socioeconomic analysis evaluates how elements of the human environment such as population, employment, housing, and public services might be affected by the proposed action and alternative(s).

In general, the significance of socioeconomic impacts is determined by the magnitude and duration of the impacts, whether beneficial or adverse. The FAA has not established a significance threshold for socioeconomics in FAA Order 1050.1F.

A division or disruption of an established community; a disruption of orderly, planned development; or an inconsistency with plans or goals that have been adopted by the community in which the project is located [see FAA Order 1050.1, paragraph 5-2.(5)].

☐Yes ☒No ☐Possibly

An increase in congestion from surface transportation, by causing a decrease in the Level of Service below the acceptable level determined by the appropriate transportation agency (i.e., a highway agency) [see FAA Order 1050.1, paragraph 5-2.(6)].

☐Yes ☒No ☐Possibly

Likelihood of an inconsistency with any Federal, State, Tribal, or local law relating to the environmental aspects of the proposed action [see FAA Order 1050.1, paragraph 5-2.(11)].

☐Yes ☒No ☐Possibly

Likelihood of directly, indirectly, or cumulatively, creating a significant impact on the human environment, including, but not limited to, actions likely to cause a significant lighting impact on residential areas or commercial use of business properties, likely to cause a significant impact on the visual nature of surrounding land uses, likely to cause environmental contamination by hazardous materials, or likely to disturb an existing hazardous material contamination site such that new environmental contamination risks are created [see FAA Order 1050.1, paragraph 5-2.(12)].

☐Yes ☒No ☐Possibly

Effects on the quality of the human environment that are likely to be highly controversial on environmental grounds. The term "highly controversial on environmental grounds" means there is a substantial dispute involving reasonable disagreement over the degree, extent, or nature of a proposed action's environmental impacts or over the action's risks of causing environmental harm. Mere opposition is not sufficient for a proposed action or its impacts to be considered highly controversial on environmental grounds. Opposition on environmental grounds by a Federal, state, or local government agency or by a tribe or a substantial number of the persons affected by the action should be considered in determining whether or not reasonable disagreement regarding the impacts of a proposed action exists. If in doubt about whether a proposed action is highly controversial on environmental grounds, consult the LOB/SO's headquarters environmental division, AEE, Regional Counsel, or AGC for assistance [see FAA Order 1050.1, paragraph 5-2.(10)].

☐Yes ☐No ☒Possibly

The FAA is aware of local community concerns associated with the implementation of the 2014 Northern California Optimization of Airspace and procedures in a Metroplex (OAPM) project.

Community Involvement

Formal community involvement or public meetings/hearings may be required for the proposed project. Make a determination if the proposed project has the potential to become highly controversial. The effects of an action are considered highly controversial when reasonable disagreement exists over the project's risks of causing environmental harm. Opposition on environmental grounds by a Federal, State or local government agency or by a Tribe, or by a substantial number of the persons affected by the action should be considered in determining whether reasonable disagreement regarding the effects of a proposed action exists [see FAA Order 1050.1, paragraph 5-2.b.(10)].

A. Have persons/officials who might have some need to know about the proposed project due to their location or by their function in the community been notified, consulted, or otherwise informed of this project?

XYes ☐ No UNKNOWN

During the spring of 2016 and to facilitate community involvement within their respective districts, the Congressional delegation designated a total of 12 representatives—locally-elected officials from Santa Cruz, Santa Clara, San Mateo and San Francisco Counties – to serve on the Select Committee. The Select Committee's role was to review the FAA's Phase One Report, gather public input within their represented areas about measures to address noise concerns, and make

recommendations that reflect public input. The Select Committee diligently worked to identify which of the initially feasible recommendations, including amendments and/or new procedures, could be included within the second phase of the Initiative. The San Francisco Airport Community Roundtable provided guidance and assistance to the Select Committee's efforts as well.

The Select Committee held a total of 10 public meetings, and the SFO Roundtable concurrently discussed the Initiative during its own regularly scheduled meetings. In November 2016, the Congressional delegation provided the FAA with 104 recommendations from these two bodies.

In July 2017 the FAA issued an interim report on its efforts to evaluate 104 recommendations from these two bodies. At that time, the agency was still considering how to address more than 50 percent of them. The agency has now determined how it would proceed on the full set of recommendations. The November 2017 update[26] details a total of 203 items, which consists of the original 104 recommendations and each of their sub-recommendations. Of these, 101 have already been addressed, 25 would be addressed in the future, and 77 were not endorsed.

The proposed changes do not capture any of the Select Committee / SF Roundtable recommendations, rather they are a result of design work to address safety and operation concerns.

1. Are local citizens and community leaders aware of the proposed project?
   X Yes ☐ No

Please see discussion above.

2. Are any ☐opposed to or ☐ supporting it? ☒UNKNOWN

Please see discussion above.

If so, identify the parties and indicate the level of opposition and/or support.

a. If they are opposed, what is the basis of their opposition?

b. Has the FAA received one or more comments objecting to the proposed project on environmental grounds from local citizens or elected officials?
   ☐Yes ☒No

   If so, state the nature of the comment and how the FAA was notified (e.g. resolution, Congressional, Public meeting/workshop, etc.).

3. Are the airport proprietor and users providing general support for the proposed project?

[26] FAA Initiative to Address Noise Concerns of Santa Cruz/Santa Clara/San Mateo/San Francisco Counties. Update on Phase Two. Compiled at the Requests of Representatives Farr (Panetta), Eshoo and Speier. November 2017.

☒Yes ☐No

4. Is the proposed project consistent with local plans and development efforts?
   ☐Yes ☐No

5. Has there been any previous aircraft-related environmental or noise analysis, including a FAR Part 150 Study, conducted at this location?
   ☒ Yes ☐No

   If so, was the study reviewed as a part of this initial review?
   ☒Yes ☐No ☐N/A

   The Part 150 study has been reviewed and referenced earlier in this document.

Alternatives

A. Are there alternatives to the proposed project? ☒ Yes ☐No
   If yes, describe any alternatives to the proposed action.

   The only alternative is the No Action alternative; procedures would not be amended and the proposed PIRAT STAR would not be implemented.

B. Please provide a summary description of alternatives eliminated and why.

The No-Action alternative was eliminated because amendments to the DYAMD STAR and connecting IAPs and CVFP are necessary to conform to the Class B airspace redesign. The No Action alternative does not meet the purpose and need of the proposed action.

Mitigation

Are there measures, which can be implemented that might mitigate any of the potential impacts, i.e., Global Positioning System (GPS)/Flight Management System (FMS) plans, Navigation Aids (NAVAID), etc.? ☐Yes ☐ No ☒ N/A

Cumulative Impacts

What other projects (FAA, non-FAA, or non-aviation) are known to be planned, have been previously implemented, or are ongoing in the affected area that would contribute to the proposed project's environmental impact?

The FAA Northern California Optimization of Airspace and Procedures in a Metroplex (NorCal OAPM) project was implemented in 2014. The NorCal OAPM project serves the existing air traffic within the northern California metropolitan area, which includes

KSFO. Arrival and departure procedures were redesigned in order to increase efficiency and safety in the National Airspace System. Given that the proposed amended procedures do not add to the number of aircraft operations at KSFO, no cumulative impact is expected to occur as a result of the implementation of the Proposed Action.

Facility/Service Area Conclusions

☒ This initial review and analysis indicates that no extraordinary circumstances or other reasons exist that would cause the responsible federal official to believe that the proposed project might have the potential for causing significant environmental impacts. The undersigned have determined that the proposed project qualifies as a categorically excluded action in accordance with Order 1050.1, and on this basis, recommend that further environmental review need not be conducted before the proposed project is implemented.

Appendix 5. Air Traffic Initial Environmental Review

Facility Manager Review/Concurrence

Signature: _____ Date: 7/10/18

Name: John F. Nelson
Air Traffic Manager
Northern California Terminal Radar Approach Control (NCT)

Service Area Environmental Specialist Review/Concurrence

Signature: MARINA JMP LANDIS Digitally signed by MARINA JMP LANDIS Date: 2018.07.13 08:15:24 -07'00' Date: _____

Name: Marina Landis
Environmental Protection Specialist, Operations Support Group,
Western Service Center, AJV-W25

Service Area Director Review/Concurrence, if necessary

Signature: _____ Date: _____

Name: Kim A. Stover
Director, Air Traffic Operations
Western Service Area, AJTW

Appendix B

SFO Roundtable Letter to FAA Regarding PIRAT Procedure (2018)

San Francisco International
Airport/Community Roundtable

455 County Center, 2nd Floor
Redwood City, CA 94063
T (650) 363-1853
F (650) 363-4849
www.sforoundtable.org

November 5, 2018

Federal Aviation Administration
Western Service Center - Operations Support Group
1601 Lind Avenue SW
Renton, WA 98057

Re: Request for an Extension of Public Comment Period for PIRAT STAR (RNAV)

This request for a sixty (60) day extension of the public comment period from November 13, 2018, is in reference to the proposed PIRAT STAR (RNAV) procedure that was recently posted on the IFP (Instrument Flight Procedures) Gateway.

As the Chair of the San Francisco Airport Community Roundtable, this newly proposed PIRAT STAR (RNAV) procedure comes as a surprise. Over the past several months we have been in regular communication with the Office of the Regional Administrator FAA regarding overflight noise impacts to our San Francisco Bay Area communities. At no time was there mention of this new procedure. In fact, at least two FAA representatives have attended the Roundtable's past two regular meetings. In our pre-meeting conference calls and at the meetings no one mentioned that this procedure was being processed. It is our understanding that the public comment period deadline is November 13, 2018.

Members of our community and our technical consultants just recently (within the past week) brought this to my attention with great alarm. There is concern that the new procedure will increase the amount of flights currently using the OTA over Portola Valley, Woodside, Los Altos and Palo Alto. There is concern that this procedure has been developed without input from our communities with regard to altitudes and vectoring over the middle and southern San Francisco Peninsula. There are questions and concerns about whether the use of the previous San Francisco Class-B Airspace via the current San Francisco Class-B Airspace is still valid. There are many more areas of this procedure we need to analyze, and to do that, we believe a sixty (60) day extension is necessary. Therefore, we respectfully request a sixty (60) day extension of the public comment period.

A key part of the Roundtable's mission is to continually abide by Article II Section 5 of its Memorandum of Understanding which states, *"that the Roundtable members, as a group, will not take an action(s) that would result in the "shifting" of noise from one community to another, related to aircraft operations at San Francisco International Airport."* It is our intention to fulfill this article for our stakeholders in San Mateo County and the City and County of San Francisco through a thorough review of the proposed PIRAT STAR (RNAV) procedure in its entirety, including technical reports.

Respectfully,

Elizabeth Lewis, Roundtable Chairperson

Appendix C

City Correspondence to FAA on PIRAT Procedure (2018)
City of Palo Alto,
City of East Palo Alto,
City of Los Altos, and City of Mountain View

City of Palo Alto
Office of the Mayor and City Council

November 13, 2018

Mr. Dan Elwell
Acting Administrator
Federal Aviation Administration
800 Independence Ave., SW
Washington, DC 20024

Sent via email to Dan.Elwell@faa.gov

Dear Administrator Elwell:

The City of Palo Alto is writing to comment on the recently proposed PIRAT ONE ARRIVAL Standard Terminal Arrival Route (STAR). These comments are submitted in response to the solicitation of comments set forth on the FAA's IFP Gateway which indicates that comments are being accepted until November 13, 2018. (See https://www.faa.gov/air_traffic/flight_info/aeronav/procedures/application/?event=procedure.results&tab=coordination&nasrId=SFO#searchResultsTop)

We note at the outset that we understand the request for comments on the IFP Gateway is directed primarily at solicitation of technical comments from air traffic professionals or aeronautical users. The agency has not, however, provided any other mechanism for the public to comment on this proposed procedure. We are, therefore, availing ourselves of this opportunity to ensure that the FAA receives and considers our comments before taking a final agency action pursuant to 49 U.S.C. 46110.

We are troubled by the lack of community engagement by the FAA during the planning and execution of such proposed changes to routes or procedures. The manner in which the PIRAT STAR has been proposed and the process for solicitation of comments does not comply with the FAA's own Community Involvement Policy as set forth in Appendix 10 to FAA Order JO 7400.2L. Neither has the process complied with current FAA practice to engage the community in any air traffic change which is likely to be controversial on environmental grounds. See FAA Order 1050.1F § 5-2; see also RTCA, PBN Blueprint Community Outreach (2016) (available at https://www.rtca.org/sites/default/files/2016_pbn_blueprint_community_outreach.pdf) which was approved by the FAA's NextGen Advisory Committee in June 2016. As far as we know, the agency has not solicited non-technical comments, has not widely distributed the proposed draft CatEx document, and has not provided the environmental documentation that was prepared in connection with what appears to be a documented CatEx. See Order 1050.1F § 5-3. (The City, through its attorney, has submitted a FOIA request for this documentation but the agency has thus far not responded to the request. We reserve the right to supplement these comments upon the timely receipt of the requested information. We reiterate here, as we did in the FOIA request, that the environmental documentation is essential for the City to determine whether the agency has properly documented the Cat Ex.)

The City of Palo Alto has also written several letters to the FAA in the past to which the FAA has been completely unresponsive. We have been left with no viable process for engaging with the FAA regarding the many questions and concerns we have about flight operations in the airspace over our city; this

P.O. Box 10250
Palo Alto, CA 94303
650.329.2477
650.328.3631 fax

communication vacuum is unacceptable. In the present context, in particular, the agency has failed to explain how the proposed PIRAT route addresses our previous complaints and concerns regarding OCEANIC arrivals into San Francisco International Airport (SFO).

With that background, we offer the following comments and raise several questions specifically on the proposed PIRAT STAR.

Because it has neither provided the environmental documentation to support the CatEx nor responded to the City's FOIA request, the FAA has not communicated whether or how the impacts of the proposed PIRAT route have been studied. We request that the FAA disclose single event noise levels, number of events over grid points on-the-ground and other relevant per-flight-operation noise data on the proposed PIRAT route using the FAA standard AEDT model. See FAA Order 7400.2L § 32-2-1. We also request that the proposed PIRAT route be presented for community involvement per Appendix 10 to FAA Order 7400.2L. We specifically request that preparation of an Air Traffic Initial Environmental Review pursuant to Order 7400.2L § 32-2-1(b).

We have several concerns about the potential impacts of the PIRAT route and ask the FAA to clarify the following issues related to routing paths and altitudes; air traffic volume; and noise and other environmental impacts, particularly given that one of NextGen's goals was to "take into consideration, to the greatest extent practicable, design of airport approach and departure flight paths to reduce exposure of noise and emissions pollution on affected residents."

While we appreciate the intent to limit flights to 8,000 MSL or higher near the neighborhoods in the Woodside area, we remain concerned about noise and other environmental impacts anticipated from the PIRAT STAR. In particular, we are concerned about the predictable increase in the volume of overflights resulting from the transition of the Pacific 2 Tailored Approach (TA) to a public-use area navigation (RNAV) STAR, and the increased impacts associated with adding Oakland International Airport (OAK) traffic to SFO traffic on this route. We are also troubled by the ambiguity and absence of information about where and how aircraft will be vectored by Air Traffic Control (ATC) between the ARGGG waypoint and final approach at SFO or OAK.

The following questions illustrate the current dearth of information available to the public about the impacts of the proposed PIRAT STAR and the necessity for a more transparent public process prior to any implementation decision.

Ambiguity of Vectoring's Routes, Altitudes, and Impacts

How will Air Traffic Control manage the paths for vectoring from the stated 060 heading from the ARGGG waypoint? Where are aircraft most likely to fly between the ARGGG waypoint and final approach into each airport? When vectoring aircraft from ARGGG, will Air Traffic Control maintain aircraft at or above 6,000 MSL over Palo Alto? What altitudes will be maintained over other neighboring sensitive areas? What are the impacts on the Air Traffic Control workload when all flights must be vectored by ATC after the ARGGG waypoint?

Impacts of Increased Volume

How many total operators and flights are anticipated to use this public-use STAR compared to the volume limitations of the current TA? Does the FAA anticipate increases in flights on this route because

of the increased growth projected at all three international airports in the San Francisco Bay Area? What are the anticipated levels of use by OAK arrivals vs. SFO arrivals on this route? What are the anticipated levels of use, if any, by SJC? What are the implications of the proximity of current and future SJC traffic to the anticipated PIRAT traffic vectored from ARRRG en route to SFO? How has the FAA studied the safety implications of PIRAT in increasingly congested airspace? What are the impacts on efficiency of increased volume?

Environmental Impacts

What studies has the FAA completed on the noise and emission impacts of the PIRAT STAR procedure, including especially the on-the-ground noise impacts because of increased volume on PIRAT? Some flights currently using the Pacific 2 TA overfly our community during nighttime and early morning hours. What is the anticipated volume and frequency of flights on the newly proposed public route during these disruptive times?

The proposed route, and the associated areas most likely to be used in vectoring flights from ARGGG to final approach, would likely direct aircraft over noise-sensitive areas, several wildlife refuges and water storage areas, historic areas, and minority and low-income populations. We draw your attention to the specific obligations of the FAA to consider impacts over such areas even if the agency believes that it has adequate legal justification to use a CatEx. See FAA Order 1050.1F § 5-3 in particular. What has the FAA done to study the environmental impacts of PIRAT flights, including the increased volume of these flights and their required vectoring, over these sensitive areas?

Finally, we urge the FAA to creatively partner with airports in the San Francisco Bay Area Metroplex to leverage new technologies to develop improved procedures as part of its Next-Gen journey. Leveraging SFO's Ground-Based Augmentation System (GBAS) is a key starting point. As you know, SFO is linking two satellite-based approach technologies – Required Navigation Performance (RNP) and a Global Navigation Satellite System (GNSS) Landing System (GLS) to improve from the approach tools invented 85 years ago, but improvements can only be gained by this technology if the FAA is willing to consider procedures that take advantage of it. Did the FAA team approach the SFO GBAS team to discuss how the new procedure could take advantage of GBAS to reduce aircraft impacts on nearby areas? How has the FAA considered SFO's upcoming deployment of new landing options when designing the PIRAT procedure?

Let me be clear that we do not believe that the FAA has adequately disclosed impacts of the PIRAT STAR under its existing orders and policy statements. And, in particular, the manner in which PIRAT STAR has been publicly disclosed violates standard agency practice for enhanced community involvement that has been adopted in the wake of the *Phoenix v. Huerta* decision.

Thank you for your attention to our concerns. We look forward to your response.

Sincerely,

Liz Kniss, Mayor
City of Palo Alto

cc: 9-AMC-Aerochart@faa.gov

https://www.faa.gov/air_traffic/flight_info/aeronav/procedures/application/?event=email.contact&details=SFO%20(%20KSFO)%20SAN%20FRANCISCO%20INTL,%20SAN%20FRANCISCO,%20CA%20-%20STAR%20PIRAT%20(RNAV)%20ONE%20SAN%20FRANCISCO%20CA%20KSFO&procedureName=STAR%20PIRAT%20(RNAV)%20ONE%20SAN%20FRANCISCO%20CA%20KSFO&airportCode=SFO&airportName=SAN%20FRANCISCO%20INTL&airportState=CA

Mr. Dennis Roberts, FAA Western-Pacific Regional Administrator
Ms. Faviola Garcia, Acting Deputy Regional Administrator
Ms. Kimberly Stover, Director, Air Traffic Operations, FAA Western Services Area, AJTW
Mr. Kevin Stewart, Acting FAA Aeronautical Information Services Manager
FAA Western Services Area Air Traffic Organization Manager
Hon. Dianne Feinstein, U.S. Senate
Hon. Kamala D. Harris, U.S. Senate
Hon. Anna G. Eshoo, U.S. House of Representatives
Palo Alto City Council
James Keene, Palo Alto City Manager
Molly Stump, Palo Alto City Attorney

City of East Palo Alto

Office of the City Manager

November 13, 2018

Mr. Dan Elwell
Acting Administrator
Federal Aviation Administration
800 Independence Ave., SW
Washington, DC 20024

Sent via email to Dan.Elwell@faa.gov

Dear Administrator Elwell:

I am writing to comment on the recently proposed PIRAT ONE ARRIVAL Standard Terminal Arrival Route (STAR). The City of East Palo Alto has been negatively impacted by the increase in airplane traffic and associated noise from both the local General Aviation airport and the regional airports.

I have the following questions and comments.

I am concerned by the lack of community engagement by the FAA during the planning and execution of the proposed PIRAT Star changes to routes or procedures. Were standard FAA community engagement processes used for the proposed PIRAT Star changes to routes or procedures?

What has the FAA done to study the environmental impacts of PIRAT flights, including the increased volume of these flights and their required vectoring, over sensitive areas? The FAA should release the noise and emission impacts of the PIRAT STAR procedure, in particular the impacts on sensitive areas such as minority and low-income populations. The proposed Categorical Exemption lacks the adequate documentation to reach an informed decision.

I look forward to your response.

Sincerely,

Sean Charpentier
Interim City Manager

cc: 9-AMC-Aerochart@faa.gov
East Palo Alto City Council
Palo Alto City Council
James Keene, East Palo Alto City Manager
Hon. Jackie Speier, U.S. House of Representatives

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Mountain View, California 94039-7540

1 North San Antonio Road
Los Altos, California 94022-3087

November 13, 2018

Kimberly Stover, Director, Air Traffic Operations
Western Service Area, AJTW
2200 S. 216th Street
Des Moines, WA 98198

RE: IFP Coordination, Standard Terminal Arrival Route (STAR), PIRAT, KSFO/KOAK

Ms. Stover,

The Cities of Mountain View and Los Altos (Cities) have serious concerns if the FAA allows the PIRAT STAR procedure to be published in its current state. Most importantly from the perspective of our cities, this new procedure has the potential to move noise over our cities, which violates the widely endorsed principle of not moving noise from one community to another. The PIRAT approach will likely increase the number of flights over Mountain View and Los Altos, as more, and perhaps all, Oceanic arrivals would be using this procedure rather than the select carriers using the existing Pacific 2 tailored arrival. Moreover, some proportion of that increased number of flights can be expected to be vectored over Mountain View and Los Altos when approaches are congested.

The aforementioned STAR data has been posted to the IFP Information Gateway and reviewed by our consultants. Please find the following issues relative to the STAR's development and production:

Design

The terminus of the PIRAT procedure is ARGGG at 8000' (MSL), where the aircraft depart on a track of 60 degrees "for vector to an instrument approach." We have the following comments:

- The cities of Mountain View and Los Altos are concerned about the potential of increased vectoring of transpacific flights over their communities during times of congestion and resulting from the higher utilization of the PIRAT procedure.

- The cities of Mountain View and Los Altos share an interest in noise being minimized over the populated areas past the ARGGG waypoint. To that end, we ask the FAA to work with Air Traffic Control (ATC) to have the minimum altitude of 8000' (MSL) followed.

CATEX

- The CATEX is devoid of any noise data analysis relative to projected traffic increases and expected usage. Analysis of old / new noise contours appears to have been bypassed, irrespective of aircraft altitude.

- The CATEX does not address historic noise complaints over the noise sensitive communities due to nighttime oceanic flights crossing as low as 1500' AGL. The San Francisco International Airport Noise Office has been tracking data on this issue since 2015. The Late Night Woodside VOR report shows the flight number and altitude for each aircraft that uses, or is vectored in the proximity of the Woodside VOR, on approach to San Francisco International Airport / Metropolitan Oakland Airport between the hours of 10:30 p.m. and 6:30 a.m. This report is generated twice per week and is sent to Northern California TRACON (NCT). To date, this has been no more than a futile effort to mitigate noise impacts with this compliance. With the PIRAT STAR now being "public," greater usage is expected which has the potential to bring greater impact; none of this has been quantified in the CATEX.

- The CATEX states, "The PIRAT STAR will convert the Pacific 2 Tailored Approach (TA) to a public-use RNAV STAR that expands benefits of the TA [tailored arrival] currently only available to selected carriers to all users of KSFO." We expect that noise will be shifted from other approaches as airlines consolidate operations to use this procedure, which violates the widely endorsed principle, including by the San Francisco Roundtable, of not moving noise from one community to another.

- From the CATEX: "An Environmental Review was completed by the Western Service Center and is incorporated herein by reference. The Environmental Review was conducted in accordance with policies and procedures in the Department of Transportation Order 5610.1C, 'Procedures for Considering Environmental Impacts' and FAA Order 1050.1F."

  This Environmental Review was not included with the CATEX. In addition, this Review was not signed off by the FAA Regional Manager nor the Regional Environmental Specialist. Therefore, the Environmental Review does not comply with FAA JO 7100.41, 7400.2, 1050.1, and DOT Order 5610.1.

Air Traffic Initial Environmental Review

Section IV, Community Involvement, contains questions for Community Development input in conjunction with the airport proprietor. This section was not disclosed and appears to be noncompliant with the FAA's Community Involvement Manual / ATO Community Involvement Plan.

- Adverse effects on the following aspects of the environment were not disclosed:

  - Species listed or proposed to be listed on the List of Endangered or Threatened Species, or designated Critical Habitat for these species, contained within the San Francisco State Fish and Game Refuge, in which the terminus waypoint ARGGG is located.

- Impact to the San Francisco Bay Natural Wildlife Refuge was also not disclosed and is a possibility due to the vectoring of additional arriving aircraft for San Francisco, Oakland, and San Jose. The vectoring of low arriving aircraft over the South Bay (5000' and below) increased 36% from 2001 to 2013 and is projected to increase in the future.

- Properties protected under Section 106 of the National Historic Preservation Act were not disclosed. These sites involve a unique characteristic of the geographic area, such as prime or unique agricultural land, a coastal zone, a historic or cultural resource, parkland, wetland, wild and scenic river, designated wilderness or wilderness study area, sole source aquifer (potential sources of drinking water: San Andreas Lake, Crystal Springs Reservoir), or an ecologically critical area.

- Significant increases of noise over a noise-sensitive area and emissions (hazardous/toxic substances) from low altitude vectored aircraft were not disclosed.

Therefore, the cities respectfully request the FAA to stop any further production action of the PIRAT STAR until the aforementioned errors can be rectified and the Environmental Review made compliant with current FAA Orders concerning Community Involvement. In addition, the cities request that this procedure be held in abeyance until noise impacts on the residents in our communities are provided by the FAA to our cities and until the cities are allowed to analyze the procedure and its impacts, and subsequently provide comments on this procedure.

Please consider the cities of Mountain View and Los Altos in the hosting of any future Community Involvement meetings concerning the finalizing of development of this STAR.

Respectfully submitted,

Leonard M. Siegel
Mayor
City of Mountain View

Jean Mordo
Mayor
City of Los Altos

cc: Honorable Anna Eshoo, U.S. House of Representatives
Honorable Jimmy Panetta, U.S. House of Representatives
Honorable Ro Khanna, U.S. House of Representatives
Dennis Roberts, Regional Administrator, AWP
Tamara Swann, Deputy, Regional Administrator, AWP
Manager, Federal Aviation Administration, Western Service Area Air Traffic Organization
FAA Manager, Aeronautical Information Services
Manager, Performance-Based Navigation Integration Group (AJV-14)
City of Mountain View City Council
City of Mountain View CM, CA, ACM, ATCM-Gilmore

Appendix D

FAA Response to
Santa Clara/Santa Cruz Counties/Airport Community Roundtable on PIRAT Procedure (2020)

U.S. Department
of Transportation
**Federal Aviation
Administration**

Western-Pacific Region
Office of the Regional Administrator

777 S. Aviation Blvd., Suite 150
El Segundo, CA 90245

May 27, 2020

Ms. Mary-Lynne Bernald
Chairperson
Santa Clara/Santa Cruz Counties Airport/Community Roundtable
PO Box 3144
Los Altos, CA 94024

Dear Ms. Bernald:

Thank you for your letter dated March 6, 2020, which contained four requests regarding the PIRAT TWO Standard Terminal Arrival Route (STAR). In responding to these requests, the Federal Aviation Administration (FAA) would like to emphasize that the environmental review document and assumptions referenced as the basis of the Santa Clara/Santa Cruz Counties Airport/Community Roundtable (SCSC Roundtable) questions include multiple procedures in addition to the PIRAT STAR.

The FAA completed its procedure design and environmental review for the PIRAT ONE STAR on July 17, 2018. A crossing restriction of "at or below 15,000 feet MSL" at the PIRAT waypoint—located above the Pacific Ocean, approximately 22 nautical miles (NM) from land—was part of the procedure design and included in the FAA's Terminal Area Route Generation Evaluation and Traffic Simulation (TARGETS) plug-in data, and considered as part of the environmental review of PIRAT ONE. When the PIRAT ONE was published in the U.S. Terminal Procedures Publication on February 28, 2019, the crossing restriction at the PIRAT waypoint was inadvertently omitted. The PIRAT TWO procedure—published in the U.S. Terminal Procedures Publication on April 25, 2019—simply added the missing crossing restriction. The FAA briefed the SCSC Roundtable about the difference between PIRAT ONE and PIRAT TWO on three occasions: May 22, 2019, August 28, 2019, and February 26, 2020.

In your first request, you asked us to explain seven assumptions made in the FAA's PIRAT ONE Initial Environmental Review (IER) that you consider unreasonable.

Assumption 1 – The FAA noted, "An increase in operations is not expected."

FAA Response: Assumption 1 is reasonable. The IER, upon which the FAA based its Categorical Exclusion (CATEX), assumes that the number of operations for oceanic arrivals to the Bay Area will not increase *as a result* of the new PIRAT STAR. The CATEX analysis was a comparison of the environmental impacts of the no action, or current state, compared to implementing the proposed action. A new procedure, such as the proposed action, provides a different navigational method but does not by itself

increase the overall number of oceanic operations. The same number of operations occur whether the proposed action or no action is implemented.

Any increase in operations in oceanic arrivals to the Bay Area would result from factors, such as market conditions, that would occur regardless of the arrival procedures in place, and, therefore, outside the scope for environmental review at the time of environmental analysis. The FAA implemented the PIRAT arrival route to increase the operational safety and efficiency of arrivals in the congested and complex Bay Area airspace. It would be unreasonable to expect this action to have a direct impact on an increase or decrease of operations at San Francisco International Airport (SFO) and Oakland International Airport (OAK).

Assumption 2 – The FAA denotes the project as a "Community Request."

FAA Response: Assumption 2 is reasonable. Prior to the implementation of the PIRAT arrival procedure, oceanic arrivals to SFO and OAK were brought in one of two ways: 1) via the private Tailored Arrival, or 2) via Air Traffic Control (ATC) instruction to cross the PIRAT waypoint and, subsequently, Woodside Very High Frequency Omnidirectional Range (OSI) (most OAK arrivals were vectored north prior to reaching OSI). The Select Committee on South Bay Arrivals (SC) recommended aircraft at OSI be restricted to 8,000 feet Mean Sea Level (MSL) (SC Recommendation 2.3, Rl). The SC also recommended revision of the private Tailored Arrival, so it, too, would be restricted to cross OSI at 8,000 feet MSL (SC Recommendation 2.3, R2). In response to these two SC recommendations, the FAA chose to combine the two arrival methods (the Tailored Arrival and ATC instruction) by creating the public PIRAT arrival procedure, which restricts all oceanic aircraft assigned to the procedure to cross the ARGGG waypoint at 8,000 feet MSL. The ground location of ARGGG waypoint and OSI differ by approximately 100 feet.

The FAA designs procedures in accordance with current FAA design criteria and ensures the designs meet all FAA safety standards. The FAA used the recommendations provided by the SC as a basis to develop a procedure that meets current FAA safety standards and design criteria. This applies to any flight procedure change request irrespective of the proponent.

Assumption 3 – The FAA states that the "proposed changes do not capture any of the Select Committee/SF Roundtable [SC/SFO Community Roundtable] recommendations, rather they are a result of design work to address safety and operational concerns."

FAA Response: Assumption 3 requires clarification. As mentioned in the previous response, the FAA designs procedures in accordance with current FAA design criteria and ensures the designs meet all safety standards. Also, the FAA always seeks ways to improve the operational safety and efficiency of the national airspace. Upon identifying a need for a public area navigation (RNAV) procedure for oceanic arrivals to SFO and OAK, the FAA considered the SC/SFO Community Roundtable recommendations in developing the procedure. What we were trying to explain in that

statement was that the FAA could not capture all of the SC recommendations because there were several procedural changes and amendments needed for operational safety and efficiency. The FAA used the recommendations provided by the SC as a basis to develop procedures that meet current FAA safety and design criteria. The SC recommendations were reviewed and considered, as reported in the Phase One and Phase Two reports from the FAA on the Northern California Initiative (NorCal Initiative). However, irrespective of initial considerations, it is the responsibility of the FAA Design Team Full Work Group (FWG) to ensure the procedures' designs conform to FAA criteria for safety and operational feasibility.

Assumption 4 – The FAA marked "Yes" to the question, "Are the airport proprietor and users providing general support for the proposed project?"

FAA Response: Assumption 4 is reasonable. Airport proprietors are invited to, and part of, the FWG. FWG concurrence is needed to show support of procedure designs and amendments, and the FWG concurred with the proposed project.

While specific approval from airport proprietors is not required, as part of our enhanced commitment to working with communities, we have increased efforts to ensure we have their support as part of the FWG concurrence; support may include being part of a joint community engagement or education plan. While the airport was not an official member of the FWG, there were discussions held with the airport regarding the PIRAT STAR.

Assumption 5 – The FAA denoted "No" impact for an established community on page 48 of the CATEX. Did the FAA look at Environmental and Social Justice as part of the PIRAT STAR environmental review process?

FAA Response: Assumption 5 is reasonable. In accordance with Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*, 59 FR 7629 (Feb. 11, 1994), and FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, the FAA's analysis considered the potential impact on minority and low-income populations from the implementation of the proposed action as compared to the no action alternative (which refers to not implementing the proposed action). In weighing whether the proposed action raises Environmental Justice concerns, the FAA considered whether a proposed action might have disproportionately high and adverse human health or environmental effects on minority and low-income populations. This analysis draws on the findings of the other impact analyses, particularly noise, land use, and air quality. The FAA must evaluate these factors in light of context and intensity to determine if there are significant impacts, as the sole existence of the factors does not indicate significance. Implementation of the proposed action would not adversely affect air quality or land use within the vicinity of the proposed changes. Additionally, the results of the noise screening analysis indicate that changes in aircraft noise exposure would be below the threshold of significance when comparing the proposed action and the no action alternative. As a result, there are no disproportionate impacts on minority or low-income populations of the proposed action, as compared to the no action alternative;

an impact related to Environmental Justice is not anticipated, as referenced in the IER, Section B6.

Assumption 6 – The FAA denoted "Yes," local citizens and community leaders are aware of the proposed project and then states that it is "UNKNOWN" if they oppose or support it, on page 50 of the CATEX.

FAA Response: Assumption 6 is reasonable. During the spring of 2016, to facilitate community involvement within their respective districts, the Congressional delegation designated a total of 12 representatives—locally-elected officials from Santa Cruz, Santa Clara, San Mateo, and San Francisco Counties—to serve on the SC. The SC's role was to gather public input within their represented areas, about measures to address noise concerns and to make recommendations that reflected public input. The SC worked to identify which initially-feasible recommendations, including amendments and/or new procedures, could be included within the second phase of the NorCal Initiative. The SFO Community Roundtable provided guidance and assistance to the SC's efforts.

The SC held a total of ten public meetings, and the SFO Community Roundtable concurrently discussed the NorCal Initiative during its own regularly scheduled meetings. In November 2016, the Congressional delegation provided the FAA with 104 recommendations from these two bodies.

In July 2017, the FAA issued an interim report on its efforts to evaluate those recommendations. At that time, the FAA was still considering how to address more than 50 percent of them, but later determined how it would proceed with the full set of recommendations. The FAA subsequently issued a November 2017 update that detailed a total of 203 items, which consisted of the original 104 recommendations and each of their sub-recommendations. Of these, 101 have already been addressed, 25 will be addressed in the future, and 77 were not endorsed. The review process is the same regardless of who submits the change request. The FAA environmental review process does not interpret recommendations as either support or opposition, but rather as possible alternatives. The FAA considers reasonable alternatives in the environmental review process that meet the purpose and need of the project.

As explained above in Assumption 2, the proposed project was the FAA's approach to responding to the SC Recommendations 2.3 R1 and R2. This approach was documented in the FAA's quarterly updates.

Assumption 7 – The FAA denotes "No" the FAA has not received one or more comments objecting to the project on environmental grounds from citizens or elected officials.

FAA Response: Assumption 7 is reasonable. The PIRAT ONE arrival procedure was published on February 28, 2019. The proposed procedure design and environmental review were finalized on July 17, 2018. At the time the environmental review was completed, the indication of "No" was correct and appropriate. As noted above in

Assumption 6, the FAA's November 2017 update documented PIRAT as the approach to respond to SC Recommendations. Therefore, any objecting comments received by the FAA prior to final design determination were not interpreted as objection on final designs.

Your second request asks why the FAA is not meeting the noise abatement agreement documented in a 2000 letter with Representative Eshoo for MENLO at 5,000 feet. We are aware of a letter from Congresswoman Eshoo to Uproar in which she states that the FAA would raise the crossing restriction at MENLO; however, we do not have any documentation that the FAA entered into an agreement.

The third request asks about the history of PIRAT development since 2013. There was a tentative design/draft of the PIRAT arrival route in 2013. However, that proposal was canceled prior to the completion of environmental and other analyses. The 2013 draft version of the PIRAT arrival procedure required aircraft to fly from PASIF waypoint to PIRAT waypoint, cross PIRAT waypoint at or above 15,000 feet MSL, then fly to BRINY waypoint and cross at or below 12,000 feet MSL at a speed of 250 knots, then fly to ARGGG waypoint and cross at or below 6,000 feet MSL, then fly to MENLO waypoint and cross at or below 4,000 feet MSL at a speed of 210 knots. The 2013 PIRAT arrival procedure ended at MENLO waypoint, where aircraft would receive instructions from ATC, such as joining an instrument approach procedure to SFO runways 28 Left/Right.

In the current version, the FAA used the recommendations provided by the SC as a basis to develop a procedure that meets current FAA safety and design criteria.

Your final request has five questions from your letter dated January 17, 2020.

1. Articulate the benefits that have been realized through the implementation of PIRAT (benefits statements must be supported by data), and in particular the incremental benefits gained from the prior procedures (Pacific 2 Tailored Arrival and non-Pacific 2 Tailored Arrival).

FAA Response: The benefits of the PIRAT STAR include, but are not limited to, the following:
a. Reduced dependence on radar vectoring and altitude and speed assignments, which results in fewer required ATC radio transmissions and pilot readbacks.
b. Increased safety through simplification of pilot/ATC communications and continuous descent procedures that reduce controller and pilot workload.
c. Increased efficiency through less circuitous routes and optimized airspace, especially in lower flight altitude stratums.

2. Explain how the altitude increase that occurred at ARGGG does not increase the noise exposure of PIRAT arrivals over the residential areas between ARGGG and the final approaches to SFO or OAK, which did not change. Describe in particular the changes in the flying altitudes and descent angles of aircraft between ARGGG and

final approaches that may have occurred given the minimum 8,000 [feet] altitude at ARGGG.

FAA Response: Prior to the implementation of the PIRAT arrival route, oceanic aircraft arriving at OSI (and not on the Tailored Arrival) departed OSI on a heading of 060 degrees and at 8,000 feet MSL. ATC would then vector aircraft to the assigned instrument approach. Other than OSI being replaced by ARGGG waypoint, this has not changed with the PIRAT STAR, and altitudes and flight paths between ARGGG and the assigned instrument approach remain unchanged. The retention of the 8,000-foot altitude was consistent with the SC request. Additionally, as stated in our letter dated February 21, 2020, noise screening for this action determined that potential impacts were not expected due to the nature of the action and amount of change; therefore, further noise screening was not required in accordance with FAA Order 1050.1F, and is consistent with both the National Environmental Policy Act and the Council of Environmental Quality regulations (40 CFR Parts 1500-1508).

3. Identify who decided to combine the Tailored Arrival procedure with the ATC vectoring instruction as described in the FAA written answer to the Roundtable question 5 from May 2019 and list all stakeholders who were consulted on the proposal prior to the decision.

FAA Response: The decision was made by the FWG members to include: the Performance Based Navigation team, National Air Traffic Control Association representatives, air traffic controllers and support personnel from Oakland Air Route Traffic Control Center and Northern California Terminal Radar Approach Control, and airline industry representatives. The FAA also used the recommendations provided by the SC as a basis to develop a procedure that meets current FAA safety and design criteria.

4. Identify the stakeholders and elected officials who were involved in the current PIRAT design discussions as well as the timeframe of such discussions.

FAA Response: There were no stakeholders or elected officials involved with the latest change to the PIRAT STAR. As stated in our previous letters and during SCSC Roundtable briefings on May 22, 2019, August 28, 2019, and February 26, 2020, the last change implemented to the PIRAT STAR was adding a crossing altitude that was left off PIRAT ONE. The PIRAT TWO procedure simply added a crossing restriction of “at or below 15,000 feet MSL” at the PIRAT waypoint, which is located above the Pacific Ocean, approximately 22 NM from land.

5. Document when and how SFO and the City and County of San Francisco expressed their support of the current PIRAT procedure.

FAA Response: As stated in the previous answer, the last change to the PIRAT STAR (PIRAT TWO) was the addition of crossing altitude that was left off PIRAT ONE. The addition of a crossing altitude of “at or below 15,000 feet MSL” provides procedural separation from air traffic crossing above.

The PIRAT STAR remains in use and there are currently no planned changes for this procedure in the foreseeable future.
We are committed to continue our work together and look forward to working with you on other areas of interest.

If I can be of further assistance, please contact my office at (424) 405-7000.

Sincerely,

Raquel Girvin
Regional Administrator