

Use by Special Review Staff Report

Date: May 7, 2025
To: Douglas County Planning Commission
CC: Mike Pesicka, Principal Planner *MP*
Jeanette Bare, AICP, Planning Manager *SK for JB*
Steven E. Koster, AICP, Assistant Director of Planning Services *SK*
Subject: Zoning Resolution Waiver for Inverness Filing 9, Lot 3
Project File: US2024-011

Planning Commission Hearing:	May 19, 2025 @ 6:00 p.m.
Board of County Commissioners Hearing:	June 10, 2025 @ 2:30 p.m.

I. EXECUTIVE SUMMARY

The request is for a waiver of certain provisions of Section 19, Centennial Airport Review Area Overlay District (CARA), of the Douglas County Zoning Resolution (DCZR). Specifically, the applicant requests a waiver of provisions in Section 1906.02.1 and Table 19-1 which prohibit “multi-family residential” in the Noise Sensitive Zone (NSZ). The applicant has proposed a concurrent Use by Special Review (USR) to convert approximately 118,000 square feet of an existing 3-story office building into 53 residential units on the 2nd and 3rd floors.

Approval of the waiver request is necessary for the project to proceed with the USR application for a multi-family development in the Light Industrial (LI) zone district. The 7.85-acre site is located on Inverness Drive South, approximately $\frac{3}{4}$ of a mile east of Interstate 25 and just west of Centennial Airport in the north central portion of the County.

If the waiver request is approved, the multi-family USR application will come back before the Planning Commission and Board of County Commissioners for a decision on the specifics of that application request.

II. APPLICATION INFORMATION

A. Applicant

Tower 22, LLC
2200 S. Valentia St.
Denver, CO 80231

B. Applicant's Representative

Karen Kennedy, COO, Homeland Development
2200 S. Valentia St.
Denver, CO 80231

C. Request

Approval of a waiver of the prohibition of “multi-family residential” in the NSZ in Section 1906.02.1 and Table 19-1 as defined within the CARA Overlay Zone District of the DCZR, in conjunction with a USR for multi-family use in the LI zone district.

D. Process

The waiver process is set forth in Section 122 of the DCZR. Waivers may be requested by an applicant in conjunction with any application subject to the standards or other criteria established with the DCZR. Section 122.03 sets forth a series of findings that must be made by the Board in order to approve a waiver request. Specifically, Section 122 provides that “The Board, at a public hearing on a specific application, may hear the request for a waiver from the standards and decide to accept or reject the request, or make modifications to the waiver request.” Section 122.02 states that “The Planning Commission, as part of the hearing on a specific application, will hear the request for a waiver from the standards and make recommendations to the Board.”

If the waiver request is approved, the full USR application will come back before the Planning Commission on July 7 for a recommendation and the Board of County Commissioners on July 22 for consideration. A USR application is processed pursuant to Section 21 of the Zoning Resolution. Section 21 states the intent of the process is “to provide for uses in specific zone districts that shall require a public notice and hearing and the approval of the Board of County Commissioners subject to such conditions and safeguards as may be imposed by the Board.”

E. Location

The project area is located approximately 1,000 feet southeast of the intersection of Inverness Way South and Inverness Drive South in the north central portion of the County. The attached CMP vicinity map, zoning map, and aerial map highlight site location and existing conditions.

F. Project Description

The applicant requests a waiver from the requirements of Section 2109.6 of the DCZR to allow a residential use in the Noise Sensitive Zone of the CARA Overlay District. The residential use will be located on the second and third floors of an existing office building on Lot 3, Inverness Subdivision Filing 9. The waiver request is in conjunction with a USR application to allow a multi-family residential use in the LI zone district. Per Section 1304 of the DCZR, a single-family attached or multi-family use is permitted with approval of a USR in the LI zone district.

Per Section 122.01, the applicant is required to provide a written waiver request that explains in detail the extent of the waiver, and the grounds for the requested waiver. The applicant provided an assessment of the waiver criteria as attached to this staff report and noted in the staff analysis section below. Generally, the applicant argues that indoor noise levels will meet acceptable standards and that no outdoor use areas are proposed. A noise impact assessment was prepared by the applicant which was reviewed and found to be acceptable by the County's noise consultant, DL Adams.

In addition, the applicant conducted a noise study and the 7-day noise test as requested by Centennial Airport. The County's noise consultant agreed with the findings of the noise test and indicates that interior noise levels can be brought to acceptable levels with the recommended construction materials.

III. CONTEXT

A. Background

The site was initially platted as Superblock B, Inverness Filing 6, 4th Amendment in 1996, and further subdivision via a replat for Inverness Filing 9 that was approved by the Board of County Commissioners in 2003. A Site Improvement Plan (SIP) was approved in 1996 for the existing building and site improvements. A revision to the SIP was approved in 2016 to add parking spaces to the site.

Section 1906 of the DCZR lists land use restrictions for each of the noise zones and safety zones in the CARA. Specifically, Section 1906.02.1(2) of the DCZR states, "Residential uses, and other noise sensitive uses as described in Table 19-1 are not allowed in the noise sensitive zone." A copy of Table 19-1 is included for reference below. Under the column for Noise Sensitive Zone, "multi-family residential" is identified as "use prohibited by this Section."

B. Adjacent Land Uses and Zoning

The project site is bordered by Centennial Airport to the east and adjacent to the departure end of Runway 17R and the arrival side of runway 35L. There are office uses to the north, an apartment development to the west, and a private school to the south. The following table reflects those zone districts and land uses surrounding the PD.

Zoning and Land Use

Direction	Zoning	Land Use
North	Light Industrial (LI)	Office building
South	Light Industrial (LI)	Private school
East	Agricultural One (A1)	Centennial Airport
West	Planned Development (PD)	Residential

IV. PHYSICAL SITE CHARACTERISTICS

The site is bounded on the west by Inverness Drive South, by an office building to the north, a private school to the south, and Centennial Airport to the east. The site is completely developed with a three-story, 118,838 square foot office building and associated parking and landscaping. With the exception of updated accessible parking spaces and minor changes to landscaping, there will be no physical changes to the site and no over lot grading. Access is provided via two driveways that connect to Inverness Drive South.

V. PROVISION OF SERVICES

The site is served by AT&T, CenturyLink, Comcast, Douglas County School District, Douglas County Sheriff, Inverness Metro District, Inverness Water and Sanitation District, South Metro Fire and Rescue and Xcel Energy. None of these agencies commented on the waiver request. If the waiver request is approved, additional review from these agencies will occur through a final referral of the USR application.

VI. PUBLIC NOTICE AND INPUT

Courtesy notices of an application in process were sent to adjacent property owners during the 21-day referral period. No comments were received from adjacent property owners or other members of the public during or after the referral period.

Referral response requests were sent to required referral agencies on November 20, 2024. All referral responses received to date have been included as an attachment to the staff report or are provided in the referral response report, also attached to the staff report. Mailed, published, and posted notices of the public hearings are required in compliance with Section 2113 of the DCZR.

Centennial Airport Authority provided a letter which states that it opposes this application due to its location within the NSZ and its location at the edge of the Fan Safety Zone (FSZ), which “prohibits residential uses due to the increased risk of aircraft accidents in close proximity to flight paths and the airport.” In addition, staff received a letter from the Federal Aviation Administration (FAA) which states that it “strongly opposes” the development because of the “potential negative impacts this development may have on persons and property on the ground and the safety and utility of the National Airspace System.” The letters from Centennial Airport and the FAA are attached to this staff report.

VII. STAFF ANALYSIS

Pursuant to Section 122 of the DCZR, the waiver may be approved only upon the finding, based upon the evidence presented, that the following criteria are met.

122.03.01: The waiver does not have the effect of nullifying the intent and purpose of this Resolution.

Staff Comment: The stated intent of the CARA is, “to reduce exposure of residential and other sensitive land uses to aircraft operations and their potential impacts, including noise; to reduce risks to public safety from aircraft accidents; and to discourage traffic congestion and incompatible land uses proximate to, and within airport review areas.”

The Noise Sensitive Zone (NSZ) is the inner noise zone, closest to the airport runways, that restricts certain uses on land surrounding the airport due to the proximity of the airport and its associated noise. When the CARA was adopted in 1997, the NSZ was founded upon the projected 2005, 65 DNL contour (the nationally accepted day-night level within which residential development is generally prohibited). The projected 2005 contours produced by the County’s airport consultant assumed the future elimination of the Preferential Runway Treatment Program, operational changes related to flights departing to the south, and the advent of new technology resulting in quieter airplanes.

The applicant’s narrative notes that the outdoor noise levels of the project site do fall within the 65 DNL noise contour as provided by Centennial Airport, indoor noise levels as measured in the building and analyzed for building material acoustics show that the interior levels lie below 45 DNL, which complies with the US Department of Housing and Urban Affairs (HUD) standards for properties that fall within the 65 DNL outdoor noise category. It goes on to state that “the developer and the intended residents of this development view the airport runway as an amenity, both adding to the aesthetic character of the property’s viewsheds, and security of a continuous border shared by the airport and adjacent properties.” The applicant also states that “our team understands that past approvals, nor the approval of this request and USR, set a precedent for future applications.”

The County’s noise consultant reviewed the noise assessment and concurred with the applicant’s findings: “The existing building – a three-story office building for adaptive re-use as multi-family residential – is directly adjacent to Centennial Airport and within its Noise Sensitive Zone (NSZ). Exterior noise levels are expected to exceed Douglas County/HUD normally acceptable criteria of 65 DNL, and with no reduction in these exterior noise levels anticipated, the applicant cites the HUD Normally Acceptable interior criteria of 45 DNL. The provided documents propose that the current building exterior façade elements are sufficient to meet this interior noise criteria.” The consultant went on to state that “We have conducted an independent noise assessment and can confirm the site falls between the 65 and 70 DNL contours on Centennial’s Airport Influence Area Map. An OITC check using HUD’s STraCAT tool agrees with EDI’s assessment. Note that if doors, windows, or other exterior building elements are changed at any point, only materials with equivalent or better sound isolation performance should be used.”

122.03.2: The granting of the waiver will not be detrimental to the public safety, health, or welfare or injurious to other property.

Staff Comment: The intent of the CARA is to reduce exposure of sensitive land uses to aircraft operations and noise, reduce risks to public safety, and discourage incompatible land uses proximate to airport review areas. The applicant retained Engineering Dynamics Inc. to conduct an Aircraft Noise Assessment for indoor and outdoor noise levels for the project site which was completed on May 15, 2024. The assessment indicates the entire building is within the 65 DNL range. The measured interior noise levels for this property range from 39 to 41, with a variance of +1 and -2. Based on this report, the proposed development meets the criteria for residential development and requires no additional sound mitigation as long as the windows and exterior of the building are not changed drastically.

Although not required, the applicant also conducted a seven-day noise test, as recommended by Centennial Airport. The County's noise consultant reviewed the seven-day noise test and generally agreed with the recommended upgrades to the east facade to bring the interior DNL limit to below the HUD recommended standard of 45 DNL. This can be accomplished by following one of the two noise mitigation improvements listed below:

- 1. Along the east side of the building, incorporate a separation of the exterior of the building and the residential units with a wall or common area element.*
- 2. Remove and replace existing exterior glazing with new glazing that has a Sound Transmission Class (STC) rating of 39 or higher along the east side of the building where any residence is located.*

Both Centennial Airport Authority and the FAA assert that the project will put apartment residents at risk of higher noise exposure and aircraft accidents due to the proximity to the airport and its runways.

122.03.3: The conditions upon which the request for a waiver is based are unique to the property for which the waiver is sought and are not applicable to other property.

Staff Comment: The waiver request is specific to proposed development on the subject property as depicted on the USR plan exhibit (US2024-011). There are two properties north of this site and two properties south of this site and within Inverness that are occupied by commercial uses, including a private school that is partially within the NSZ. The applicant's letter notes that the waiver would only apply to the USR application for this site and asserts that a waiver would not set a precedent for other properties.

122.03.4: A particular noneconomic hardship to the owner would result from a strict application of this Resolution.

Staff Comment: The applicant indicates that without a waiver for the current request, the associated USR will not be able to move forward for final USR consideration before the Planning Commission and Board of County Commissioners. The proposed USR request is for a multi-family development in the LI zone district.

122.03.5: The waiver will not in any manner vary the provision of the Zoning Resolution of County Building Code.

Staff Comment: The waiver request does not fall under the variance provisions as defined within Section 26, Variance Standards and Procedures, of the DCZR. The applicant will be required to comply with all other DCZR requirements and Douglas County building codes through the USR and building permit processes.

122.03.6: The proposed development will be in conformance with the Douglas County Master Plan.

Staff Comment: The site is located within the Lone Tree Municipal Planning Inclusive of the Primary Urban Area of the 2040 Douglas County Comprehensive Master Plan (2040 CMP). In particular, Policy 6-5A.1 states to apply CARA land use regulations in addition to underlying zoning regulations to ensure the future operation of Centennial Airport. Additionally, Section 8 of the 2040 CMP identifies noise as a threat to public health, safety, and welfare; and states land use controls are a valid means of mitigation, including protecting noise-sensitive uses from uses generating excessive levels of undesirable noise. Policy 8-6A.2 encourages the use of sound-dampening construction materials and design techniques to reduce outside and inside noise levels.

The applicant's narrative notes the proposed multi-family use meets Objective 2-1A directing urban-level development to designated urban areas. In addition, the applicant references Goal 2-5 to design development to complement both the natural and historic landscape. The proposal will utilize an existing building, the historic appearance of the property will be unchanged, and unused space will be activated and will take advantage of the views of planes departing and arriving. The applicant also believes the request meets Goal 2-7 which is to foster a balanced community and robust economy and "vacant office space does not benefit the community's sense of space, property owner investments, or County tax base. Providing housing options in a mixed-use infill environment encourages both a balanced community and a robust economy."

VIII. STAFF ASSESSMENT

Staff has evaluated the waiver request in accordance with Section 122 of the DCZR. Centennial Airport Authority and the FAA object to the proposal for residential use at this site due to noise and safety concerns. The applicant has provided noise studies, including a 7-day noise test, related to aircraft noise at the site. Indoor noise levels are anticipated to meet acceptable standards. No outdoor use areas are proposed.

Should the Planning Commission find that the approval standards for the waiver request are met, the following proposed conditions should be considered for inclusion in the motion:

1. Prior to final approval of the associated USR application, the applicant shall record an avigation easement on the property.
2. Prior to issuance of a building permit, the applicant shall update the east side of the existing building to bring the interior DNL limit below 45 DNL using one of the two

recommended design implements from the sound level measurement study conducted by Engineering Dynamics dated April 17, 2025.

The applicant requests that this public hearing be continued to July 7, 2025, at 6:00 p.m. for consideration of the rest of the USR application by the Planning Commission.

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LAND USE APPLICATION

Please fill in this application form completely. An incomplete application will not be processed.

Note: Neither the Planning Commission nor the Board of County Commissioners should be contacted regarding an open application.

OFFICE USE ONLY		PROJECT FILE #:
PROJECT NAME:		
PROJECT TYPE:	Mixed Use	PLANNING FEES:
MARKETING NAME:	Inverness Overlook	
SITE ADDRESS:	327 Inverness Dr. S. Englewood, CO 80112	ENGINEERING FEES:
OWNER(S):		
Name(s):	Tower 22	TOTAL FEES:
Address:	2200 S. Valentia St. Denver, CO 80231	
Phone:	720-840-7634	RELATED PROJECTS:
Email:	craig@pillows.com	
AUTHORIZED REPRESENTATIVE (requires notarized letter of authorization if other than owner)		
Name:	Homeland Development	
Address:	2200 S. Valentia St. Denver, CO 80231	
Phone:	417-988-8326	
Email:	karen@homeland.com	

LEGAL DESCRIPTION:

Subdivision Name: InvernessFiling #: 9 Lot #: 3 Block #: _____ Section #: 2 Township: 6 South Range: 67 WestSTATE PARCEL NUMBER(S): 2003071425

ZONING:

Present Zoning: L1- light industrial Proposed Zoning: L1- light industrial Gross Acreage: 7.856Gross Site Density (DU per AC): _____ # of Lots or Units Proposed: 1

SERVICE PROVIDERS:

Fire District: South MetroMetro District: SE Public ImprovGas: Xcel EnergyWater: Inverness Water and SanitationSewer: Inverness Water and SanitationElectric: Xcel EnergyRoads: ☒ Public☐ Private (please explain): _____

To the best of my knowledge, the information contained on this application is true and correct. ***I have received the County's information sheet regarding the Preble's Meadow Jumping Mouse.***

Karen Kennedy
Applicant Signature7/25/24
Date

May 7, 2026

Mike Pesicka, Principal Planner
Douglas County – Department of Community Development
512 Cherry Avenue, Building A
County, CO 80514

RE: Inverness Overlook CARA Overlay Zone District Use Waiver Request

Dear Mr. Pesicka,

Homeland Development, Baseline Corporation, Pappas Architecture, and Drexel Barrell are pleased to submit the Inverness Overlook Centennial Airport Review Area (CARA) Overlay Zone Use Waiver Request application to the Douglas County Department of Community Development. This narrative provides a summary of the proposed development and conformance with County plans, goals, and regulations. The following documents are also included in our submittal:

- Presubmittal Review (PS2024-064-Inverness Filing 9-Lot 3 – USR)
- Land Use Application
- Project Narrative (including CARA Waiver and Variance requests)
- Title Commitment
- Letter of Authorization
- USR Site Plan
- USR Management Plan
- Water Supply Documentation
- Landscape Plan
- Building Elevations
- Utility Plan
- Grading Plan
- Drainage Letter
- Traffic Generation Analysis
- Noise Assessment
- ALTA Survey
- Variance Exhibit
- List of Abutting Property Owners
- Landlord Notification Letter
- CARA Use Waiver Comment Responses
- CARA Use Waiver Request Narrative

Project History

The project site is located at the property addressed as 327 Inverness Drive South, also known as Lot 3, Inverness Subdivision Filing #9, in unincorporated Douglas County. The site totals approximately 7.85 acres

and is currently zoned Light Industrial (LI). An existing, three-story office building owned by Tower 22 LLC, as well as two adjacent parking areas on Lot 3, are partially occupied by commercial tenants on the first floor, and are proposed for redevelopment. The Centennial Airport is located directly to the east, and the property is also within the “Noise Sensitive Zone” and “Noise Mitigation Zone” contours of the Centennial Airport Review Area (CARA) Overlay Zone District.

A pre-submittal review meeting was held with Douglas County on March 21, 2024, which was attended by Homeland Development’s team and a Baseline representative. The proposal included plans for an adaptive re-use project to utilize the existing office building for multi-family residential. While multi-family residential is allowed as a Use by Special Review (USR) in the “LI” zone district, it is understood that the CARA Overlay Zone contains additional land use regulations to consider. The pre-submittal response provided by County staff indicated that while various commercial and industrial uses are allowed in the CARA Noise Sensitive Zone, no residential uses are allowed without a waiver. Based on their evaluation that almost the entirety of the building is located in the Noise Sensitive Zone, a proposal for multi-family residential would require a CARA use waiver request to the Board of County Commissioners to be considered along with the USR application.

Our team met with the Centennial Airport staff in advance of preparing these submittals to explain our proposal and learn more of their potential concerns. We are grateful to have had the chance to discuss airport operations and their staff’s concerns, and acknowledged their position to enforce regulations that are meant to protect the airport and their position if we proceeded forward. However, we feel that we can work through relevant concerns, so that all review entities can find positive aspects to this re-use of the property. The proposed use is very similar to other developments in the airport area, and we feel we can mitigate concerns with the proposed development.

This narrative, and supporting submittal documents, will provide applicant findings and documentation as it pertains to the CARA Overlay Zone District Use Waiver request. Two sound studies were completed and referenced by this narrative, an Airport Noise Assessment completed with the initial submittal, and a 7-Day Single Event Level report, requested by County sound engineering consultants and completed subsequently. This narrative, which demonstrates how the Inverness Overlook proposal meets the intent, purpose, and criteria of the CMP, DCZR, also addresses comments related to the use waiver and airport-related impacts which were received during the County review process.

Site Characteristics

The Inverness Overlook project is located within Section 2, Township 6 South, Range 67 West of the 6th Principal Meridian, in unincorporated Douglas County. Located north of E-470 and east of Interstate 25, east of Inverness Drive South, and west of the Centennial Airport, the site consists of one parcel (no. 2231-021-01-003), with an approximate area of 7.85 acres. The existing building shares a hallway connection to the adjacent building/property that lies immediately to the north (parcel no. 2231-021-01-002), though it has been permanently closed and abandoned by recorded easement. These parcels, Lots 2 & 3 of the Inverness Subdivision Filing No. 9, along with Lot 1 (parcel no. 2231-021-01-001) located further to the north, all have shared street frontage and site access to the west from Inverness Drive South, and are bordered on the east side by a parking lot.

Lots 1 and 2 are still currently primarily office uses, while the property to the south was recently redeveloped as a K-8 school, known as Colorado Christian Academy. To the west of the site on the opposite side of Inverness Drive South lies a multi-family residential development, the Palmer Apartments. As stated earlier, the eastern border of the site is shared by a Centennial Airport runway.

The property is currently served by the Douglas County RE-1 school district, as well as the South Metro Fire Protection District. A will serve letter from the Inverness Water & Sanitation District is included with this submittal, indicating their capacity to provide the site water and wastewater services. The existing County stormwater infrastructure will be utilized for this project, and no additional impervious area is proposed.

The site includes a parking lot of 32 spaces to the west of the building, and another 443 spaces located behind the building, to the east. The rear parking lot is accessed by a shared drive which connects the property to the north, and its parking lot, to Inverness Drive South. No changes to the existing parking lots, landscaped islands, or landscape buffer zones are proposed at this time, as there is no additional space on the property to expand these site improvements and because the current configuration meets the use proposed in this submittal

The building is situated to provide pedestrian access from the parking lots on the east and west sides. Sidewalks also connect the front (west) entrance to adjacent buildings and Inverness Drive South public right-of-way. As stated earlier, an access restricted building corridor currently lies between the subject property and its neighbor to the north. No access or connection to the property to the north is planned, though the current proposal also does not plan to demolish or change this portion of the buildings.

Project Proposal

The proposed Inverness Overlook development intends to utilize the existing built environment to provide much needed housing supply for current and future residents of Douglas County to enjoy the many nearby amenities, along with easy access to I-25, C-470 and E-470. The Inverness Overlook development benefits from the existing infrastructure investments made by previous owners, developers, and Douglas County, as well as central placement near employment, recreation, shopping, and entertainment opportunities.

As many office buildings have been left empty due to long-term market changes, as well as recent trends towards virtual/remote work for many companies, these spaces are in a unique position to be upgraded and retrofitted for residential uses. The three-story office building at 327 Inverness Drive South will be converted into a mixed-use complex with 53 residential units, which equates to a proposed density of 6.75 dwelling units per acre. The ground floor will be comprised of multi-tenant office space and planned community spaces for office and residential tenants. The 2nd floor will be remodeled for 29 residential units, and the 3rd floor for an additional 24 units. Other than internal renovations, this proposal does not include major changes to the buildings massing or façade.

Of the 53 units, 14 of these are planned to be one-bedroom units, 35 two-bedroom units, and 4 three-bedroom units. This current unit breakdown would require 113 parking spaces for residents and guests, per Section 28 of the DCZR. The site's two parking lots provide 475 parking spaces, 9 of which are accessible. An ADA Access Plan has been included with this USR submittal set showing the necessary re-striping in the parking lot, as well as reconstruction of ramps and the addition of truncated domes, to meet accessibility requirements.

The existing roadway and utility infrastructure currently has the capacity to serve additional residents in this area, documented by the reports included with this submittal, and is adjacent to a similar multi-family residential development, a school, and more office buildings that could be utilized for similar uses. Utility and Grading Plans have been included with the associated USR submittal, as well as a Drainage Letter, which indicate the minimal site work necessary with this redevelopment as adequate infrastructure is already available and no additional impervious area is planned.

No adverse impacts to the neighboring properties are expected. In fact, this use will strengthen the sense of community and locate residential development in an area that's already developed. No impacts to existing vegetation, wildlife, air or water quality, nor the sense of peace and quiet of the neighborhood have been found, as this is already an urban area and no major improvements or construction is necessary. A landscaped buffer already exists on the property and in the surrounding area, which once again will not be affected by this proposal.

However, the proximity to the airport does entail certain impacts to the site that have also been carefully considered. Further detail on the CARA Overlay Zone and compliance with the Douglas County Comprehensive Plan and Zoning Resolution area detailed below. Our team is prepared to work with the County, Airport, and any applicable agencies to comply with all permits and regulations.

Conformance with the Douglas County Comprehensive Plan

The Inverness Overlook proposal has incorporated the guiding principles of the 2040 Douglas County Comprehensive Master (CMP) into its planning and design. The CMP's Future Land Use Map indicates the subject property located within the Lone Tree Municipal Planning Area, which is regulated by Section 2 of the CMP as an "Urban Land Use" area.

This section describes the intent of this designation as, "generally characterized by residential uses at a gross density greater than one dwelling unit per 2.5 acres," as well as references regional goals from DRCOG's Metro Vision 2040 Plan which aims for "open space, freestanding communities, a balanced transportation network, urban centers, environmental quality, and senior-friendly development." This USR proposal meets all these criteria by redeveloping the existing built environment and locating a high-density residential mixed-use project within an existing urban center, reducing sprawl and preserving open space and environmental quality. The property is already served by a substantial transportation network for local and regional automobile trips, as well as sidewalk and trail networks for pedestrians or bicyclists. Multi-family developments provide housing that is easier to attain for residents of all ages and socioeconomic status.

The close proximity to commercial and mixed-use space is intended to easily connect residents with local businesses and services as well as provide a convenient destination for commuters to visit to and from work. The connection with nearby trails provides multi-modal access to commercial, residential, and public open space areas, as well. The E-740 Trail is located approximately one mile to the south of the proposed development, which provides regional access to the South Platte Trail, Cherry Creek Trail, and others. The surrounding area has been developed with an extensive sidewalk network, providing access to parks, recreational amenities, and Park Meadows. The internal pedestrian access will provide connections across and through the site to these developed networks.

Providing a variety of housing stock is crucial for any urban area and creates the necessary tax base for commercial areas to thrive. Providing housing near employment opportunities creates less regional traffic, and localized freestanding communities. The adaptive re-use of an office building, especially in an urban infill environment, is a sustainable use of resources and not only meets the intent of the CMP, but each Goal listed below:

- (2-1) Improve and enhance existing infrastructure; support healthy living; reduce vehicle miles travelled; maintain air quality standards; and conserve open space.*

Applicant Finding: Objective 2-1A of Section 2 of the CMP states, "Direct urban-level development to designated urban areas. This USR is proposed within the Lone Tree Municipal Planning Area, meeting the

intent of this objective. Furthermore, the overall goal of the Inverness Overlook proposal is an adaptive infill development, which will utilize existing infrastructure for water, wastewater, stormwater, as well as pedestrian and vehicular access, which will be upgraded per current County standards for residential development. This benefit, along with the nearby proximity to employment, entertainment, and retail, creates a sustainable development and walkable neighborhood that encourages residents and tenants to walk or bike instead of driving, supporting healthy living, reducing VMT, maintaining environmental quality, and conserving open space.

(2-2) Support environmental systems comprised of water, wildlife, wildlife habitat, recreation and sense of place.

Applicant Finding: This proposal intends to build upon the existing community activity and contribute to the sense of place that existing residents and businesses enjoy. Recreation opportunities and the aesthetic and cultural value of the airport are central to the overall concept of Inverness Overlook, and placing much needed residential uses within a developed part of the County supports conservation of environmental systems already in place.

(2-3) Provide connected parks, trails, and recreational facilities appropriate to the scale of the development.

Applicant Finding: Many recreational opportunities exist within the Inverness area, including John Derry Park, Inverness Park Sand Volleyball Courts, the Inverness Reservoir, and several sidewalks and trails connecting the homes and businesses in the area to one another.

(2-4) Establish public spaces or gathering places in new and existing neighborhoods.

Applicant Finding: The community theater that occupies the 1st floor is an existing benefit to the community, and will be a great amenity for future residents. Outdoor recreation spaces, such as sport courts, are currently being evaluated, and John Derry Park is located nearby. Park Meadows Mall and other nearby recreational or shopping opportunities can be accessed via existing sidewalk and road networks, and the developed nature of the Inverness area has little room for new spaces in this existing context.

(2-5) Design development to complement both the natural and historic landscape.

Applicant Finding: By utilizing an existing building, the historic appearance of the property will remain the same, while activating unused space and taking advantage of the views of planes departing and arriving. The Inverness development was originally designed to incorporate natural landscape features and drainageways, which our proposal will not modify or cause conflict.

(2-6) Achieve compatibility between residential and nonresidential land uses, in terms of land use and design.

Applicant Finding: In addition to the compatibility of residential uses near the Centennial Airport as demonstrated below, placing residential uses in unused office or retail spaces also create a beneficial mix of uses and potential for residents to work very close to home. The adjacent residential, school, office, and retail uses have proven their synergy with one another, and our proposal is intended to strengthen the existing community. Re-using the existing office building for residential purposes, as opposed to proposing new structures, also maintains design compatibility with existing, adjacent offices and commercial buildings.

The CMP's Policy 2-6A.1 states, "Locate residential away from areas that exceed an outside noise level of 65 DNL." This criterion, along with the CARA Overlay Zone District's Noise Sensitive Zone prohibition of residential uses, are requested to be waived based on the findings of the attached Airport Noise Assessment. While the outdoor noise levels of the subject property do fall within the 65 DNL noise contour as provided by the Centennial Airport, initial indoor noise levels as measured in the building and analyzed for building material acoustics showed that the interior lies below 45 DNL, complying with US Department of Housing and Urban Affairs (HUD) standards for properties that fall within the 65 DNL outdoor noise category. During a follow-up 7-Day Single Event Level assessment, it was found that certain areas in the building experienced increases to up to 50 DNL on the east façade near the window. This assessment recommended window glazing improvements to mitigate these increased event impacts, and our team will fully comply with those criteria.

(2-7) Foster a balanced community and robust economy.

Applicant Finding: Vacant office space does not benefit the community's sense of space, property owner investments, or County tax base. Providing housing options in a mixed-use infill environment encourages both a balanced community and a robust economy.

(2-8) Conserve resources.

Applicant Finding: The conservatory benefits of infill development are inherent, reducing waste of building materials, infrastructure, natural and landscaped areas. Services do not need to be extended and long-term, invasive construction impacts can be mostly avoided. As the real estate market and development trends shift, focusing on redevelopment of unutilized places is a sustainable and resilient approach to allocating resources for needed uses.

(2-9) Ensure development occurs concurrently with essential services and infrastructure.

Applicant Finding: As stated above, the benefit of the proposal is that services and infrastructure are already accounted for, and this development will ensure the investment of these essentials are utilized for their highest and best use.

(2-10) Utilize environmental systems comprised of water, wildlife and wildlife habitat, recreation, and sense of place as the basis for community form within the Chatfield urban area.

Applicant Finding: This USR proposal does not lie within the Chatfield urban area.

(2-11) Design density-appropriate development to complement both the natural and historic landscape.

Applicant Finding: The proposed density of 6.75 dwelling units per acre meets the CMP's policy of greater than one dwelling unit per 2.5 acres. The project will not affect the natural or historical landscapes in the area.

(2-12) Provide density-appropriate connected parks, trails, and recreational facilities.

Applicant Finding: The proposed density of the multi-family residential uses are centrally placed near many parks, trails, sidewalks, and recreational opportunities, as described above.

(2-13) Ensure the cohesive implementation of community-identified values in the Chatfield urban area as expressed by this plan.

Applicant Finding: This USR proposal does not lie within the Chatfield urban area.

(2-14) Establish vibrant community activity centers.

Applicant Finding: The Inverness development and nearby Centennial Airport and Park Meadows mall are established and vibrant community activity centers. Placing residential uses will allow more members of the community to access and enjoy these areas.

(2-15) Preserve the integrity of the separated urban areas.

Applicant Finding: As part of a Separated Urban Area in the CMP, this proposal preserves the integrity of the developed area as well as conserved County open space, by locating new development in areas already urbanized.

(2-16) Encourage coordinated comprehensive master plans between the county and municipalities.

Applicant Finding: The findings of this narrative are based on the criteria found in the Douglas County CMP, however, nearby municipalities, regional planning efforts, as well as national standards and plans were considered in the drafting of the Inverness Overlook USR application. We look forward to working with the County and surrounding municipalities to ensure the coordination and compliance with all regional plans.

Conformance with the Douglas County Zoning Resolution

Section 1 of the Douglas County Zoning Resolution, titled “Administrative Provisions and Procedures,” provides the following approval criteria for waiver requests:

(122.01) The applicant shall provide a written waiver request that explains in detail the extent of the waiver, and the grounds for the requested waiver.

Applicant Finding: Acknowledged, this narrative has been revised to address the details and grounds for the requested waiver to the Centennial Airport Review Area Overlay District use standards.

(122.02) The Planning Commission, as part of the hearing on a specific application, will hear the request for a waiver from the standards and make recommendations to the Board.

Applicant Finding: Acknowledged.

(122.03) Such waiver shall be approved only upon the finding, based upon the evidence presented in each specific case, that:

Applicant Finding: Acknowledged, please see applicant responses detailing each criteria below.

(122.03.1) the waiver does not have the effect of nullifying the intent and purpose of this Resolution;

Applicant Finding: The waiver request does not nullify any intent or purpose stated in the Douglas County Zoning Resolution, and goes further to meet intent and purpose statements found in the CMP, as described above.

(122.03.2) the granting of the waiver will not be detrimental to the public safety, health, or welfare or injurious to other property;

Applicant Finding: The waiver request addresses County and Federal regulations pertaining to the public safety, health, and welfare of Douglas County residents and future tenants, and will in no way be injurious to other properties. The waiver request, associated sound assessments, and USR application has addressed the concerns stated by Centennial Airport and FAA to the highest degree possible and look forward to continued coordination with Douglas County to ensure any public health or safety concerns are addressed.

(122.03.3) the conditions upon which the request for a waiver is based are unique to the property for which the waiver is sought and are not applicable to other property;

Applicant Finding: The proposed waiver request is only applicable to the subject property of this application, and will not affect existing Douglas County zoning regulations for any other properties. The conditions of this application are extremely unique, as further analyzed in the associated USR and variance applications, to be reviewed after the current CARA use waiver hearings.

(122.03.4) a particular non-economical hardship to the owner would result from a strict application of this Resolution;

Applicant Finding: The applicant's team does not feel that the strict application of this Resolution would necessarily result in the denial of the application. Douglas County staff and the County's sound engineer seem to be in agreeance of the findings presented in our submittal. The Centennial Airport and Federal Aviation Administration have provided review comments stating their opposition to the proposed use, and the applicant's team has provided empirical and contextual data, proving that the impacts created to potential residents of the proposed development are safe, within the acceptable range of federally approved criteria for housing and urban development, and no greater than the impacts would be to the uses which would be supported by the Centennial Airport. Based on the findings presented in this submittal, we believe the criteria stated in this section and other sections of the Zoning Resolution, including Use by Special Reviews and Variances, to be fully met.

(122.03.5) the waiver will not in any manner vary the provisions of the Zoning Resolution or County Building Code; and

Applicant Finding: The waiver request does not nullify or vary any provision stated in the Douglas County Zoning Resolution.

(122.03.6) the proposed development will be in conformance with the Douglas County Master Plan.

Applicant Finding: Conformance with the Douglas County Master Plan is described in the section above.

Centennial Airport Review Area Overlay Zone Use Waiver Request

As mentioned previously, Douglas County Comprehensive Plan's Policy 2-6A.1 intends to locate residential uses in areas that do not exceed an outdoor noise level of 65 DNL. Baseline and Homeland met with the Centennial Airport on April 23, 2024, per County direction, to discuss the USR proposal as it relates to the CARA Overlay Zone. Their evaluations have shown that the property and entirety of the building lies within the 65 DNL area, designated by CARA as the "Noise Sensitive Zone." Residential uses are prohibited in the

Noise Sensitive Zone, though a number of nearby developments have been approved recently based on their own findings of noise levels.

Included with this submittal is an Aircraft Noise Assessment completed by Engineering Dynamics Inc. on May 15, 2024, which details the findings of indoor and outdoor noise levels for 327 Inverness Drive South. The report concludes with the most recently available Centennial Airport Noise Contours, indicating the entire building to be within the 65 DNL range. As outdoor noise levels due to the airport cannot be reduced or mitigated, and because it is expected that residents and tenants will be more exposed to indoor sound levels, each floor of the building was measured for a range of decibel level readings as well as analyzed building material acoustics of the existing façade, windows, and roof.

The US Department of Housing and Urban Affairs (HUD) defines the acceptability of residential development to be “Normally Acceptable” when the measured DNL is less than 65, consistent with Douglas County standards. When a development lies between 65 – 75 DNL, it is considered to be “Normally Unacceptable” by HUD standards. The Inverness Overlook development is therefore considered to be Normally Unacceptable by HUD standards. However, this categorical designation goes further to provide acceptable indoor sound levels, and this proposal complies with that standard.

The maximum interior noise level for this property and all others in its category, based on HUD definitions, is 45 DNL. The measured interior levels range from 39 to 41, with a variance of +1 and -2. The submitted report also analyzed the existing building per Outdoor-Indoor Transmission Class, a noise parameter used for determining the level of sound reduction from outside a building to inside a building. The details of this calculation are included in the report, and the findings further conclude that the interior noise level is 41 DNL.

Based on this report, the Inverness Overlook development meets the criteria for residential development, and at the request of County staff, the site was further analyzed in a follow-up 7-Day Single-Event Level (SEL) assessment. The findings of this assessment have been found satisfactory by County review agencies and suggest the implementation of building upgrades to the east façade windows, reducing indoor DNL in areas affected more heavily by airport noise. The applicant’s team is more than happy to follow the recommendations of the EDI sound assessment and will update future USR plan and building permit submittals to reflect these improvements. We ask the County and applicable review agencies to take this into consideration while reviewing our request to waive the CARA Overlay Zone District prohibition of residential uses for this USR application.

Staff indicated in the Presubmittal Review Findings that, “There is no clear path for amending or waiving the Noise Sensitive Zone boundary or use restrictions. While the Board of County Commissioners may consider a waiver request to certain provisions of the zoning resolution (as outlined in Section 122 of the DCZR), the Board is required to make specific findings before approving a waiver request.” Our team has produced this initial waiver request in confidence that our submittal will provide the basis for these findings, and looks forward to working with the applicable review authorities to ensure the safety and comfort of Inverness Overlook’s residents, tenants, and guests.

In standing with previous CARA Use Waiver request reviews and approvals, the developer and the intended residents of this development view the airport runway as an amenity, both adding to the aesthetic character of the property’s viewsheds, and security of a continuous border shared by the airport and adjacent properties. Our team understands that past approvals, nor the approval of this request and USR, set a precedent for future applications, but our findings are consistent with all the information available pertaining

to the appropriateness and benefit of multi-family residential uses at the subject site, and respectfully requests approval of this waiver from the Douglas County Board of County Commissioners.

If there are questions or comments regarding this submittal, please notify us and we will address them immediately.

Sincerely,

A handwritten signature in black ink, appearing to read 'AdK', with a long horizontal stroke extending to the right.

Andrew Baker, AICP
Senior Planner
Baseline Engineering Corporation

cc. Mike Swisher, Homeland Development Corporation
Karen Kennedy, Homeland Development Corporation

Comprehensive Master Plan Land Use Reference Map

Comprehensive Master Plan Areas

- Primary Urban Area
- Chatfield Urban Area
- Separated Urban Area
- Rural Community
- Nonurban Subarea
- Municipal Planning Area (Incorporated)
- Municipal Planning Area (Unincorporated)
- Municipal Planning Area Inclusive of County PUA / SUA
- Non-Douglas County Based Municipalities
- Douglas County Boundary

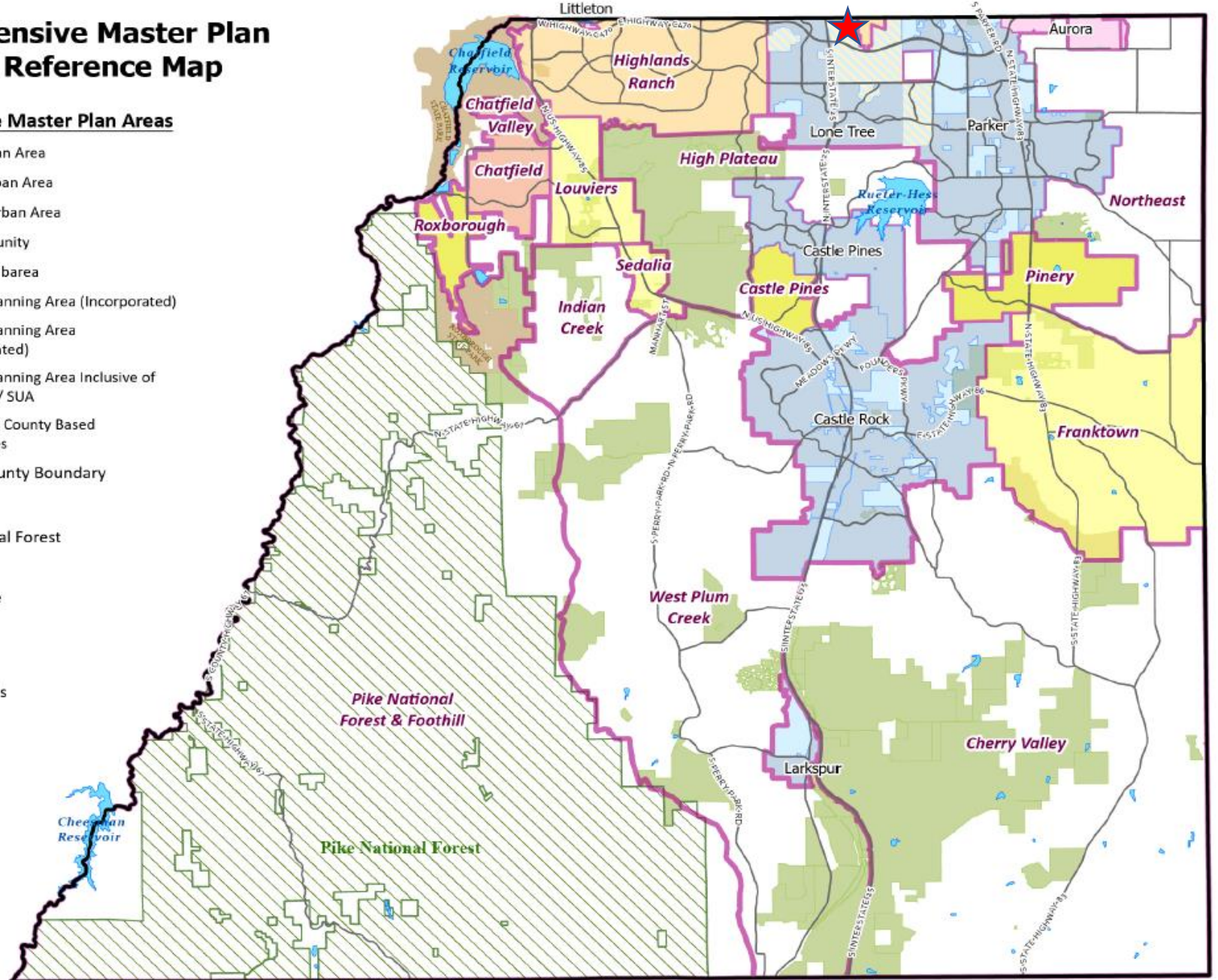
Parks

- Pike National Forest
- State Parks
- Open Space
- Lakes

Roadways

- Major Roads

- Project Site



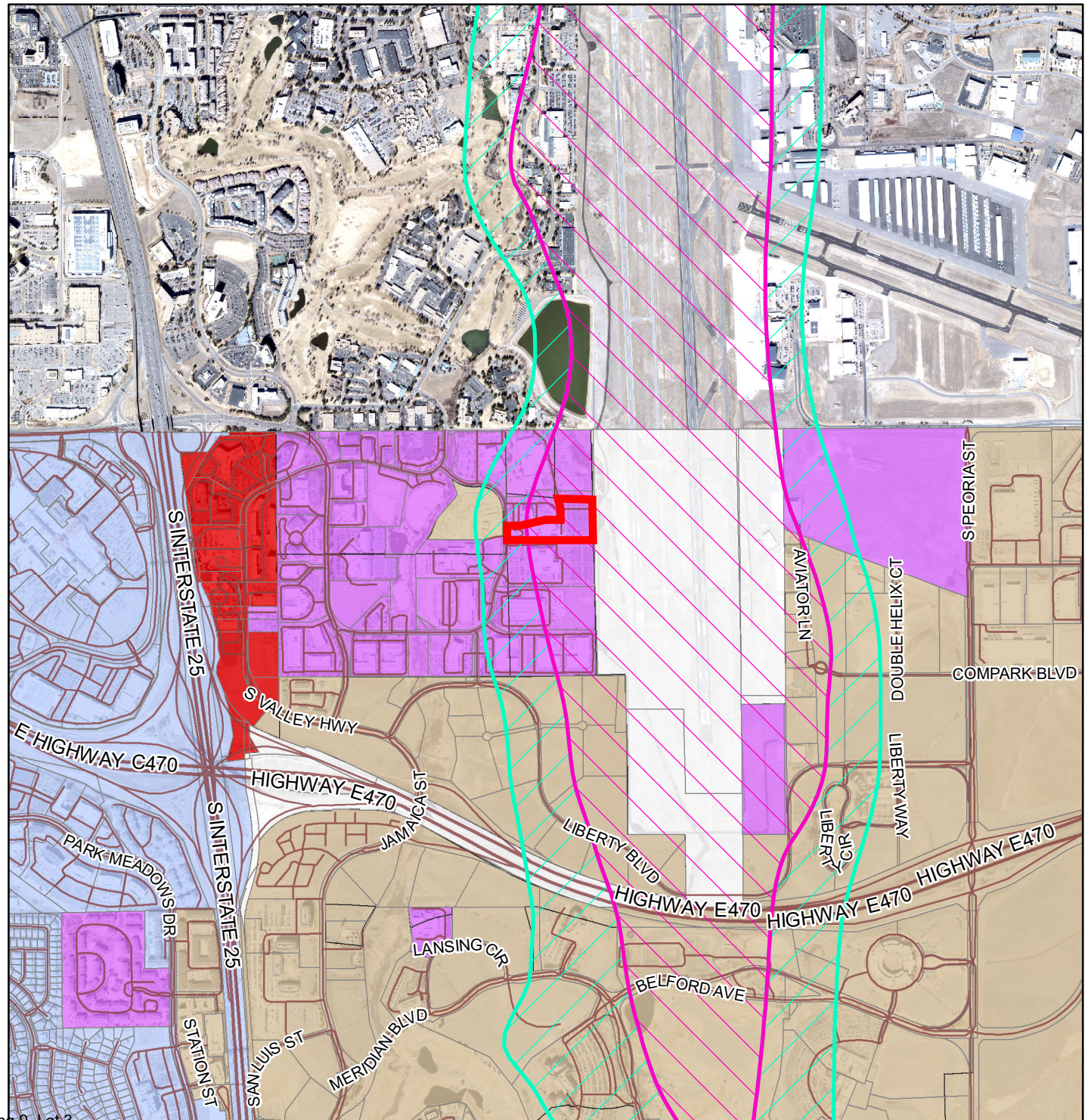
INVERNESS SUBDIVISION FILING 9, LOT 3

US2024-011
ZONING MAP



LEGEND

- PROJECT SITE
- CARA - NOISE MITIGATION ZONE
- CARA - NOISE SENSITIVE ZONE
- MAJOR ROADS
- OTHER ROADS
- ZONE DISTRICT**
- A1 - AGRICULTURAL ONE
- LRR - LARGE RURAL RESIDENTIAL
- RR - RURAL RESIDENTIAL
- ER - ESTATE RESIDENTIAL
- SR - SUBURBAN RESIDENTIAL
- MF - MULTIFAMILY
- LSB - LIMITED SERVICE BUSINESS
- B - BUSINESS
- C - COMMERCIAL
- LI - LIGHT INDUSTRIAL
- GI - GENERAL INDUSTRIAL
- CMTY - SEDALIA COMMUNITY
- D - SEDALIA DOWNTOWN
- HC - SEDALIA HIGHWAY COMMERCIAL
- MI - SEDALIA MIXED INDUSTRIAL
- PD - PLANNED DEVELOPMENT
- OS - OPEN SPACE CONSERVATION
- NF - NATIONAL FOREST
- INCORPORATED AREAS






INVERNESS
SUBDIVISION
FILING 9, LOT 3

US2024-011
AERIAL MAP

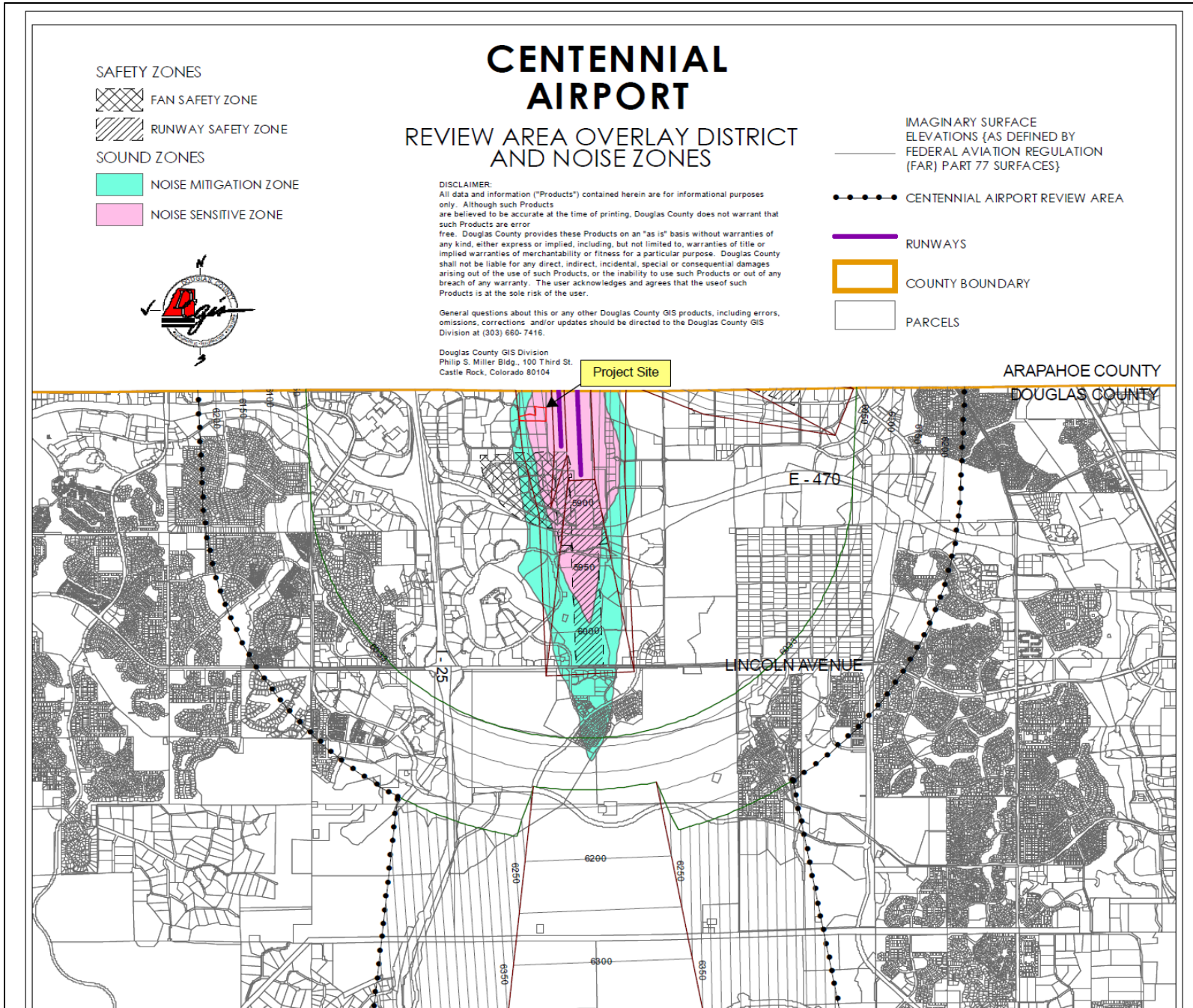


LEGEND

-  PROJECT SITE
-  MAJOR ROADS
-  OTHER ROADS



INVERNESS DRIVE SOUTH



Referral Agency Response Report**Page 1 of 2****Project Name:** Inverness Subdivision Filing 9, Lot 3**Project File #:** US2024-011**Date Sent:** 11/20/2024**Date Due:** 12/12/2024

Agency	Date Received	Agency Response	Response Resolution
Addressing Analyst	11/21/2024	This agency had no comments on the waiver request.	No Response Required
Arapahoe County Engineering Services Division		No Response Received:	No Response Required
Arapahoe County Public Airport Authority-Centennial	12/04/2024	Received: Following is a summary of comments received from the Arapahoe County Public Airport Authority (ACPAA)). For details please reference their review letter dated December 2, 2024. -The development is inconsistent with zoning regulations and raises serious safety and noise related concerns. -Site lies within the 65 DNL noise contour which the FAA considers incompatible with residential development. -Site lies within the Restricted Development Area (RDA) of the Airport Influence Area (AIA). -Site is adjacent to the end of runways 17R and 35L and will be subject to numerous over flights and their associated effects. -If the request is approved then the following should be implemented: -Avigation easements, a residential 7-day noise test, and filing and approval of a FAA Form 7460-1 for construction activities.	Applicant has submitted an avigation easement that will be required to be recorded as a condition of approval of the USR. Applicant has also submitted a 7-day noise test that was sent to the ACPAA for their review. If the waiver and USR requests are approved, the applicant will obtain the required FAA Form 7460-1.
Arapahoe County PWD/Planning		No Response Received:	No Response Required
AT&T Long Distance - ROW	11/20/2024	This agency had no comments on the waiver request.	No Response Required
Black Hills Energy		No Response Received:	No Response Required
Building Services	11/22/2024	This agency had no comments on the waiver request.	No Response Required
CenturyLink		No Response Received:	No Response Required
Cherry Creek Basin Water Quality Authority	12/13/2024	This agency had no comments on the waiver request.	No Response Required
City of Centennial		No Response Received:	No Response Required
City of Lone Tree	12/02/2024	No Comment:	No Response Required

Referral Agency Response Report**Page 2 of 2****Project Name:** Inverness Subdivision Filing 9, Lot 3**Project File #:** US2024-011**Date Sent:** 11/20/2024**Date Due:** 12/12/2024

Agency	Date Received	Agency Response	Response Resolution
Comcast		No Response Received:	No Response Required
Douglas County Health Department	12/12/2024	This agency had no comments on the waiver request.	No Response Required
Douglas County School District RE 1	12/05/2024	This agency had no comments on the waiver request.	No Response Required
Engineering Services	11/25/2024	This agency had no comments on the waiver request	No Response Required
Inverness Metro Improvement District		No Response Received:	No Response Required
Inverness Planning and Architectural Control Committee		No Response Received:	No Response Required
Inverness Water & Sanitation District		No Response Received:	No Response Required
Mile High Flood District		No Response Received:	No Response Required
Office of Emergency Management		No Response Received:	No Response Required
RTD - Planning & Development Dept		No Response Received:	No Response Required
Sheriff's Office		No Response Received:	No Response Required
Sheriff's Office E911		No Response Received:	No Response Required
South Metro Fire Rescue	11/27/2024	This agency had no comments on the waiver request.	No Response Required
Southeast Metro Stormwater Authority	12/13/2024	No Comment:	No Response Required
Southeast Public Improv Metro District		No Response Received:	No Response Required
Town of Parker Development Review		No Response Received:	No Response Required
Xcel Energy-Right of Way & Permits	12/10/2024	This agency had no comments on the waiver request.	No Response Required

REFERRAL RESPONSE REQUEST – USE BY SPECIAL REVIEW

 Date sent: November 20, 2024

 Comments due by: **December 12, 2024**

Fax: 303.660.9550

Project Name: Inverness Subdivision Filing 9, Lot 3

Project File #: US2024-011

Project Summary:

A Use by Special Review (USR) to convert approximately 118,000 square-feet of an existing 3-story office building (327 Inverness Drive South) into 53 residential units on the 2nd and 3rd floors, and approximately 20,000 square feet of mixed-use office and commercial uses on the ground floor.

The 7.86-acre site is zoned Light Industrial (LI) and is located at 327 Inverness Drive South, approximately 1,000 feet southeast of the intersection of Inverness Way South and Inverness Drive South, west of Centennial Airport.

The property is located within the Noise Sensitive Zone of the Centennial Airport Review Area (CARA) – Overlay District, which prohibits “multifamily residential”. The applicant is requesting the Board of County Commissioners grant a waiver to Section 1906.02.1.(2) of the *Douglas County Zoning Resolution* to allow “multifamily residential” within the Noise Sensitive Zone of the CARA Overlay District.

Information on the identified development proposal located in Douglas County is enclosed. Please review and comment in the space provided.

<input type="checkbox"/> No Comment	
<input type="checkbox"/> Please be advised of the following concerns: <div style="border-bottom: 1px solid black; height: 20px; margin-top: 5px;"></div> <div style="border-bottom: 1px solid black; height: 20px; margin-top: 5px;"></div>	
<input checked="" type="checkbox"/> See letter attached for detail.	
Agency: Arapahoe County Public Airport Authority	Phone #: 303-218-2919
Your Name: Zachary Gabehart (please print)	Your Signature: <i>Zachary Gabehart</i>
Date: 12/04/2024	

Agencies should be advised that failure to submit written comments prior to the due date, or to obtain the applicant's written approval of an extension, will result in written comments being accepted for informational purposes only.

Sincerely,

Mike Pesicka

Mike Pesicka, Principal Planner



CENTENNIAL AIRPORT
ARAPAHOE COUNTY AIRPORT AUTHORITY

7565 South Peoria Street, Unit D9
Englewood, Colorado 80112
main: 303-790-0598 | fax: 303-790-2129
www.centennialairport.com

December 2nd, 2024

Mike Pesicka
Douglas County Community Development Department
100 Third St.
Castle Rock, CO 80104

Re: US2024-011 – 327 Inverness Dr. S; Inverness Filing 9, Lot 3 USR

Dear Mr. Pesicka,

Thank you for the opportunity to review the site plan. Due to the location of the proposed residential development and its proximity to the Airport, the Arapahoe County Public Airport Authority opposes this development. As stipulated in Section 1906.02.1 (2) of the Douglas County Zoning Resolution (DCZR), developments of this nature are prohibited within the Noise Sensitive Zone (NSZ) of the Centennial Airport Review Area (CARA), as defined in Section 19 of the DCZR. Moreover, the proposed development is situated at the edge of the Fan Safety Zone (FSZ), where Section 1906.01.2 (1) of the DCZR prohibits residential uses due to the increased risk of aircraft accidents in close proximity to flight paths and the airport. As such, the proposed development is inconsistent with zoning regulations and raises serious concerns related to safety and noise. In addition to the zoning conflict, the proposed site violates several key Airport Land Use Guidelines, outlined below.

The proposed development lies inside the 65 dNL noise contour and just outside the 70 dNL noise contour. The Federal Aviation Administration (FAA) considers any residential development within the 65 dNL contour to be incompatible. The FAA defines 65 dNL to be the significant level of noise where repeated exposure to this noise level prohibits quiet living environments and considers it significantly disruptive. The proposed development lies 0.16 miles from the nearest runway at Centennial Airport and within the Restricted Development Area (RDA) of the Airport Influence Area (AIA). Based on the Airport's Land Use Guidelines, all new residential and other noise sensitive developments are prohibited within the RDA.

This development is being opposed by the Airport Authority because the new residences are adjacent to the departure end of runway 17R and the arrival side of runway 35L, therefore will be subjected to numerous aircraft over flights at low altitudes and their associated effects. These effects include, but are not limited to: noise, smoke, dust, fumes and vibrations. Not only is this proposed development 0.16 miles from the Airports busiest training runway, the property shares a fence line with the airport. Again this development not only causes concerns with the Airport's Land Use Guidelines but is also inconsistent with provisions set forth in Section 19 of the Douglas County Zoning Resolution.

However, should the County grant this use by special review, which is highly inadvisable due to potential safety and health effects, we request that following be implemented:

- Avigation Easements are required for residential development within the AIA. These documents ensure that home buyers understand that they are buying a house that is in close proximity to an airport. Book and page number of the avigation easement must be included on all plats and plans. Please forward a copy of the executed avigation easement and disclosure statement to our office for our records. Overflight disclosure language should be included in all lease documents as well as posted in a conspicuous place in leasing offices.
- A residential 7-day noise test is recommended using single noise event levels (SEL). It is highly recommended for this proposed development, if approved, to have verified interior noise attenuation at or below 45 dnl.
- Any objects on the site (including cranes used during construction) that penetrate a 100:1 slope from the nearest point of the nearest runway, penetrates the FAA Part 77 airspace surfaces, impede signals associated with navigational equipment or any other reason the FAA deems necessary will require the filing and approval of FAA Form 7460-1. This form may take 90 days or more for approval. Please visit <https://oeaaa.faa.gov> to utilize the notice criteria tool to confirm filing requirements and to file the FAA Form 7460-1. **Please note that this is a State and Federal regulatory requirement.** Runway endpoint data is available from the Airport for engineering calculations. In addition, please have crane operators advise Airport Operations (303-877-7307) prior to erecting any cranes.
- Please include the Airport on the vicinity map.

Please feel free to call me if you have any questions.

Sincerely,



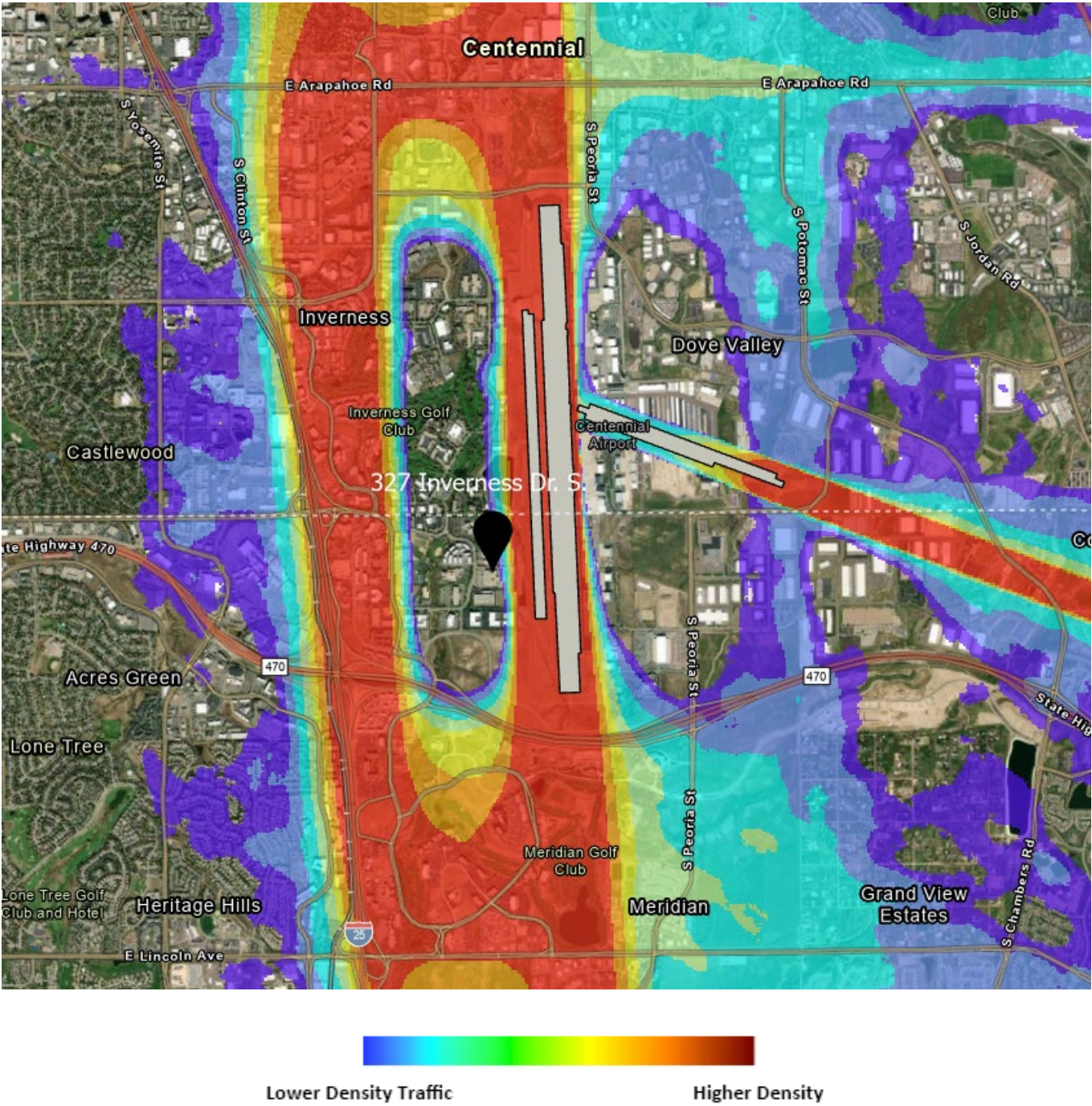
Zachary Gabehart
Planning Specialist - Noise & Environmental

In July of 2024, which was the busiest month of 2024, 327 Inverness Dr. S saw the following number of overflights within 1/4 mile of the property:

Operation Type:	Number of Operations:
Arrivals:	328
Departures:	120
Training Flights:	14,694
Total Overflights:	15,142



The below heat map demonstrates the close proximity of the property to high density operation areas.



STANDARD AVIGATION AND HAZARD EASEMENT

KNOW ALL MEN BY THESE PRESENTS, that

WHEREAS, _____

_____,
who collectively shall hereinafter be referred to as the "Grantors," all own an interest in a part of that certain tract of land in Section _____, Township _____, Range _____ of the _____, County of _____, State of Colorado, more particularly described in Exhibit A attached hereto.

NOW, THEREFORE, in consideration of the sum of Ten (\$10.00) Dollars and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Grantors, for themselves, their heirs, personal representatives, successors and assigns, do hereby grant, bargain, sell and convey unto Arapahoe County Public Airport Authority, its successors and assigns, hereinafter referred to as the "Grantee," for the use and benefit of the public, an easement and right of way, appurtenant to the Centennial Airport, for the unobstructed passage of all aircraft, ("aircraft" being defined for the purposes of this instrument as any contrivance now known or hereafter invented, used or designed for navigation of or flight in the air) by whomsoever owned and operated in the air space above Grantors' property to an infinite height, together with the right to cause, in all air space above the surface of Grantors' property, such noise, vibrations, fumes, dust, fuel particles, and all other effects that may be caused by the operation or aircraft landing at, taking off from, or operating at or on said Centennial Airport.

Grantors do hereby waive, remise and release any right or cause of action which they may now have or which they may have in the future against Grantee, its successors and assigns, with respect to Grantors' property due to such noise, vibrations, fumes, dust, fuel particles, and all other effects that may be caused or may have been caused by the operation or aircraft landing at, taking off from, or operating at or on said Centennial Airport. Nothing stated in the foregoing waiver, grant and release shall release any person from liability for damages or divest the Grantors, their heirs, personal representatives, successors and assigns from any right or cause of action for damages to any person or property resulting from the unlawful or negligent operation of any aircraft at any altitude over and across Grantors' property.

The easement and right-of-way hereby granted includes the continuing right in the Grantee to prevent the erection or growth upon Grantors' property of any building, structure, tree or other object extending into the air space above a mean sea level of _____ feet, and to remove from said air space, or at the sole option of the Grantee, as an alternative, to mark and light as obstructions to air navigation, any such building, structure, tree or other object now upon, or which in the future may be upon Grantors' property, together with the right of reasonable ingress to, egress from, and passage over Grantors' property for the above purposes.

TO HAVE AND TO HOLD said easement and right-of-way, and all rights appertaining thereto unto the Grantee, its successors and assigns, until Arapahoe County Public Airport Authority shall cease to use said Centennial Airport for public airport purposes.

AND for the consideration hereinabove set forth, the Grantors, for themselves, their heirs, personal representatives, successors and assigns, do hereby agree that for and during the life of said easement and right-of-way, they will not hereafter erect, permit the erection or growth of, or permit or suffer to remain upon Grantors' property any building, structure, tree or other object extending into the aforesaid prohibited air space, and that they shall not hereafter use or permit or suffer the use of Grantors' property in such a manner as to create electrical interference with radio communication between any installation upon said airport and aircraft, or as to make it difficult for flyers to distinguish between airport lights and others, or as to impair visibility in the vicinity of the airport, or as otherwise to endanger the landing, taking off or maneuvering of aircraft. It is understood and agreed that the aforesaid covenants and agreements shall run with the land.

This Avigation and Hazard Easement may be signed in counterpart copies each of which shall be fully binding on the party or parties executing same as if all signatories signed a single copy.

IN WITNESS WHEREOF, the Grantors have executed this Avigation and Hazard Easement as of this _____ day of _____, 19____.

(Grantor)

By _____

ATTEST:

Legal Acknowledgment for each Grantor.



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

Denver Airports District Office
26805 E. 68th Avenue, Room 224
Denver, Colorado 80249
303-342-1250; FAX 303-342-1260

December 4, 2024

Mike Pesicka
Douglas County Community Development Department
100 Third St.
Castle Rock, CO 80104

Re: US2024-011 – 327 Inverness Dr. S; Inverness Filing 9, Lot 3 USR

Dear Mr. Pesicka:

The Federal Aviation Administration, Denver Airports District Office (FAA) was notified by Centennial Airport concerning the above referenced residential development. Due to the close proximity of this proposed development to Centennial Airport's 17R/35L, FAA strongly opposes this proposed development because of the potential negative impacts this development may have on persons and property on the ground and the safety and utility of the National Airspace System. Additionally, residential developments in such area have been identified as incompatible with airport operations.

Centennial Airport (APA) serves approx. 332,000 aircraft operations (a take-off or landing) per year and is utilized by a variety of aircraft, ranging from small, single-engine propeller airplanes up to large, jet aircraft. The airport is a Federally-funded, public use airport that is required by Federal law to remain open to all types of aircraft 24 hours a day, 7 days a week. APA plays a major role in the Colorado and national airport system.

The Federal Government has made a significant investment of public funds in Centennial Airport. Under the current Federal airport aid program, the FAA has provided over \$103 million in development and planning grants to this airport. This is in addition to Federal funds and resources invested in the construction, maintenance and staffing of a Federal air traffic control tower and aircraft navigational systems. When accepting these Federal funds, Arapahoe County, as the airport sponsor, agreed to certain Federal obligations, known as Federal grant assurances, which among many other requirements, requires the county to preserve and operate Centennial Airport in accordance with FAA regulations and standards and to protect the airport from non-compatible land uses. FAA considers residential development adjacent an airport to be a non-compatible land use (see FAA Order 5190.6B, Airport Compliance Manual, Chapter 20, *Compatible Land Use and Airspace Protection*).

The proposed development lies inside the 65 Day-Night Average Sound Level (dNL) noise contour and just outside the 70 dNL noise contour. The Federal Aviation Administration (FAA) considers any residential development within the 65 dNL contour to be incompatible. The FAA defines 65 dNL to be the significant level of noise where repeated exposure to this noise level prohibits quiet living environments and considers it significantly disruptive. The proposed development lies 0.16 miles from the nearest runway at Centennial Airport and within the Restricted Development Area (RDA) of the Airport Influence Area

(AIA). Based on the Airport's Land Use Guidelines, all new residential and other noise sensitive developments are prohibited within the RDA. Additionally, the proposed residences are adjacent to the departure end of runway 17R and the arrival side of runway 35L, making them subject to numerous aircraft over flights at low altitudes and their associated effects. These effects include, but are not limited to noise, smoke, dust, fumes and vibrations. Not only is this proposed development 0.16 miles from the Airports busiest training runway, but the property also shares a fence line with the airport.

Incompatible land use at or near airports may result in the creation of hazards to air navigation and reductions in airport utility due to obstructions to flight paths or noise-related incompatible land use caused by residential construction development too close to the airport. For these reasons, FAA requires Federally obligated airport sponsors to restrict residential encroachment near their airports, including the adoption of zoning requirements to restrict non-compatible land uses in an area surrounding the airport. Such zoning requirements also ensure compliance with Colorado state laws that require governmental entities with zoning and build permit authority, such as Douglas County, to address safety, noise and compatible land uses around airports (see Colorado Revised Statute 24-65.1-202, Criteria for Administration of Areas of State Interest, and 43-10-133, Safe Operating Areas Around Airports).

Moreover, Douglas County is a member of the Centennial Noise Round Table Committee and its representatives on the committee are well aware of local communities' concerns with aircraft noise and the thousands of noise complaints the Centennial Airport receives every year from individuals that live under the airport's flight paths. To prevent further conflict, it would seem in the County's best interest to protect the welfare of its citizens by restricting residential development in Centennial Airport's approach and departure areas.

In accordance with Title 14 of the Code of Federal Regulations (14 CFR) Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace*, and Colorado state law, Douglas County also must ensure the developer of the proposed development requests an airspace analysis to determine potential aeronautical hazards in advance of construction to prevent or minimize the adverse impacts to the safe and efficient use of navigable airspace.

FAA reviews construction proposals through the submittal of FAA Form 7460-1, *Notice of Proposed Construction or Alteration*. If any portion of the proposal is located within 20,000 feet of a public use runway (and breaks a 100:1 plane coming off the nearest point of the nearest runway); or is more than 200 feet above ground level at any location, the FAA requires the project's proponent to file a Form 7460-1. If the proposal does not meet any of the criteria above, it may still be necessary to file a Form 7460-1 if the structure requires an FCC license or there is a potential for navigational equipment interference. The FAA uses information provided on this form to conduct an aeronautical review to determine if the proposal will pose an aeronautical hazard and to minimize the adverse effects to aviation. FAA Form 7460-1 can be filed electronically at www.oaaaa.faa.gov.

For the reasons discussed above, the FAA cannot support the construction of residences so close to Centennial Airport. We recommend the Douglas County not approve this development as proposed and explore alternative uses of this land that better conform with Federal, state and industry recommendations for compatible land uses near airports.

If you have questions regarding the above comments or would like to meet to discuss our concerns, please contact me at (406) 441-5409.

Sincerely,

Joe Nye
Acting Manager
FAA/Denver Airports District Office

APPLICANT'S RESPONSE TO REFERRAL COMMENTS

Centennial Airport's Comments

APPLICANT RESPONSE: The applicant acknowledges the comments received from Centennial Airport in the letter dated 12/2/24. As stated above, the requested draft Avigation Easement included with this resubmittal which will be executed and recorded promptly after final USR approval, via condition of commencement of construction or similar such means. Please see the attached comment response letter from EDI referring to the noise study comments- generally, our findings show that the original airport noise assessment does meet the HUD regulations cited and provides all the information necessary to make an informed decision on the compatibility of proposed land uses. If the Douglas County Planning Commission or Board of County Commissioners feel that additional information is needed, we will be happy to provide that. The applicant also agrees to follow any federal or state regulations, including the referenced FAA Part 77 items regarding FAA Form 7460-1 and potential objects on-site. The airport property will be included on the vicinity map in forthcoming USR resubmittals, and the applicant's team will continue to coordinate with the airport on future reviews.

Federal Aviation Administration

APPLICANT RESPONSE: The applicant's team acknowledges the FAA's position on new residential development and incompatible uses near airports, and appreciates the information provided. The comment letter dated 12/4/24 references Chapter 20 of the Airport Compliance Manual, and the following response outlines the applicant's findings of several points stated in the manual, and offers alternative perspective on FAA regulations and comments:

1. (20.1) *"...if the project is for noise compatibility program implementation, it will not cause or permit any change in land use, within its jurisdiction, that will reduce its compatibility, with respect to the airport, of the noise compatibility program measures upon which federal funds have been expended."*

Based on the first section of language found in Chapter 20, this chapter refers to a change in land use, though the existing Douglas County industrial zoning regulations already allows residential as a Use by Special Review. This means that not only does the County acknowledges that there are certain cases where this land use could be appropriate in this area, it also creates a regulatory path to review and approve such requests. The CARA overlay zone which prohibits multi-family residential within the 65 DNL noise contour is also not proposed to be changed by this proposal. Once again, the County has an established route and specific process to accommodate and review special cases in which the CARA zone district regulations can be reviewed on a case-by-case basis when a residential project is of merit. Adjacent to this project is a residential development which was approved despite the CARA overlay zone, along with a school adjacent to the south which was approved in 2022. This residential project and several other residential projects within the CARA overlay zone, where a waiver was obtained for multi-family use, have been successful proving empirically that multi-family projects in the CARA overlay zone and adjacent to the Centennial Airport can be successful.

1. (20.2.g) *"Pre-existing Obstructions. (1) Historically, some airports were developed at locations where preexisting structures or natural terrain (for example, hilltops) would constitute an obstruction by currently applicable standards. If such obstructions were not required to be removed as a condition*

for a grant agreement, the execution of the agreement by the government constitutes a recognition that the removal was not reasonably within the power of the sponsor.”

The letter references “new construction” and “new development” multiple times. However, the building in question has been in its current location since the mid 1990’s without any harm to the airport, runway, or flight paths, and was approved and constructed per required standards at the time. There will be no expansion or construction that would increase any structural encroachment or obstruction with the building conversion, and redevelopment of unused spaces is not only a sustainable and proven in-fill solution to provide much-needed housing near transportation access and employment opportunities. No County zoning regulations are being changed with this request which may cause further residential development near the airport, or anywhere else. Based on this, we believe that removal of these buildings was not included as a condition in the grant agreement, and the power of removal is not reasonably within the power of Douglas County.

1. Douglas County performed a separate private evaluation of the noise impacts on the proposed Inverness Overlook site, as well as reviewed the noise study provided with our application in the 1st application submittal. The interior noise levels found in the existing structure meet Department of Housing and Urban Development standards for acceptable living environments, and the County’s sound consultant agreed with those findings. The applicant (and seemingly Douglas County staff) finds the HUD’s reasoning behind acceptable noise levels to be more clearly based in science and provide appropriate nuance in their findings and potential mitigation techniques.

The Centennial Airport and FAA’s response letter vaguely refer to “noise, dust, smoke, and vibrations” but offer no further detail or data to back up that claim of harmful effects caused by airports. Centennial Airport states that the “FAA defines 65 dNL to be the significant level of noise where repeated exposure to this noise level *prohibits quiet living environments* and considers it *significantly disruptive*.” This seems to describe an impact that could be disruptive or inconvenient, but not truly harmful. The applicant finds it obvious that the FAA’s and Centennial Airport’s concern with residential land use is not about potential harmful effects, but is primarily due to a desire to minimize complaints about airport noise. Whatever impacts exist for future residents would be equally shared by office users, outdoor recreationalists, school children, and any other people who currently occupy the nearby properties or uses listed by the FAA as “compatible.” Centennial Airport is primarily concerned with reducing the number of noise complaints they receive, and hope that office users would submit complaints less than residents. To avoid this, per the request of Centennial Airport- the applicant has agreed to draft a Landlord Notification Letter which would notify any potential future users of the impacts they may not be aware of prior to lease signing, etc.

Using federal regulation and vague references to harmful effects of airplane operations that are not supported by any analysis is not persuasive when it has been empirically proven that multifamily developments in the vicinity of the airport have been successful, and studies specific to the project in question support the viability of the project. With that said, as noted above; to cooperate with the airport the Applicant will be providing a noise disclosure to all residential tenants and will execute an easement. Additionally, the Applicant intends to be a good neighbor to the airport and always engage in professional discussion when addressing any issue of mutual concern. Finally, the Applicant has met with the airport and understands the airport’s concerns; the Applicant will always keep these lines of communication open and sees the views of the airport to the east as a unique feature to the development that many occupants will enjoy. We have committed that every resident that signs a lease to reside here will acknowledge the location near the airport and that they acknowledge to not provide

complaints to the airport in the future. This is an opportunity to provide more affordable housing to employees of businesses in the area including the airport staff and support staff.

The submitted noise assessment used HUD standards due to the nature of this redevelopment. Adaptive re-use of currently vacant office buildings is currently a very useful strategy to reduce wasted land and structures, while providing needed public investment, and additional housing while we are experiencing a national shortage of housing. In Colorado, this shortage is nothing less than a crisis. The FAA's position on compatible land uses seems outdated and does not take into account local matters, and furthermore - it is the local jurisdictional (Douglas County) decision-makers responsibility to respond to local issues, and we believe Douglas County is aware of their need to honor and uphold their regulations and the agreements they've made in their processes and regulations. Our application has respectfully responded to federal regulation and policy to the highest degree possible, and we hold on to the perspective and trust that the Douglas County Board of County Commissioners to review this application and come to their own decision supporting our request for approval of this simple request to add some residential units in the existing vacant building that has long served the Douglas County community and neighborhood for the last 30 years.

1. As an office building that has existed adjacent to the airport since its construction, the maximum occupancy is currently 1,023. The notion that 1,023 office users, which would typically occupy the property during business hours (which coincides with the busiest airport traffic hours), are somehow less affected by noise, dust, vibration, or any other effects than the maximum 96 residents (as proposed by this USR), does not seem logical or based in scientific findings. Furthermore, the Institute of Transportation Engineers (ITE) Trip Generation Handbook 9th Edition shows office uses as generating exponentially more traffic than multi-family residential uses. The 96 proposed residents would create 318 daily trips (on average, for "Apartment" use category), while the 7.856 acres of office use would create 1,177 trips (on average, for "Business Park" use category – the "General Office" category used in the submitted traffic study would result in an even higher daily trip number. In any case, utilizing any amount of the space for residential use would ultimately result in fewer people affected by the airport during less intensive times of the day.

If there are questions or comments regarding this submission, please notify us and we will address them immediately.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ad R', with a stylized flourish at the end.

Andrew Baker, AICP
Senior Planner, Baseline Engineering Corporation

15 May 2024

Ms. Karen Kennedy
Homeland
2200 S. Valentia St.
Denver CO 80231

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Voice: 417-988-8326

RE: Aircraft Noise Assessment
327 Inverness Drive East
EDI Job # C-4467

Dear Ms. Kennedy:

Engineering Dynamics, Inc. has completed an aircraft noise assessment for the proposed conversion of the commercial building located at 327 Inverness Drive East, in Douglas County, Colorado from commercial use to a mixed use of commercial and residential. This noise assessment has been completed to address requirements from Douglas County for the Use by Special Review (USR) for the use change on this project.

This analysis has two parts, which address noise concerns, since the building is located within the Centennial Airport Influence area and within the DNL 65 noise contour. The two parts augment each other.

- a. Sound level measurements inside the building, in areas which are intended to be converted to residential use, to document existing interior Day Night Noise Levels (DNLs) in compliance with the U.S. Department of Housing and Urban Development (HUD) noise guidelines; interior DNL of 45 or less.
- b. Outside to Inside Transmission Loss (OITC) calculation of the building exterior façade elements, in the areas which are intended to be converted to residential use, to demonstrate compliance with HUD noise guidelines for a residential use; interior DNL of 45 or less.

1.0 Background

1.1 HUD Requirements

Department of Housing and Urban Development U.S. Department of Housing and Urban Affairs (HUD) defines acceptability of land used for residential development to be Normally Acceptable when the measured DNL < 65 dB(A). Residential areas with an DNL < 65 dB(A) comply with the Normally Acceptable Criteria for residential development, areas that have DNL's > 65 and < 75 dB(A) are considered Normally Unacceptable, and areas that have DNL's > 75 dB(A) are considered Unacceptable. For residential housing in the Normally Unacceptable category Interior DNL's MUST be less than 45.

The 327 Inverness Drive East Building is located between the DNL 65 and 70 noise contours; the HUD Normally Unacceptable range. Since these noise contours are from aircraft noise, the exterior noise levels cannot be reduced below existing. Therefore, HUD compliance is based on an interior DNL of 45 or less.

1.2 Douglas County Requirements

Interior noise levels are HUD compliant.

1.3 Centennial Airport Noise Contours

Figure 1.3 shows the most recent Centennial Airport Noise Contours. In Figure 1.3 the DNL 75, 70 and 65 noise contours are shown, as is the 327 Inverness Drive East development site. Inspection of Figure 1.3 shows that the 327 building is located between the DNL 65 and 70 noise contours.

2.0 Measured Sound Level Results

Sound level measurements were completed at three locations inside the building over a period of 7-days from 8:30am 7-May-24 through 9:30am 14-May-24. At each measurement location the sound level meter was 5-feet from the windows. The measurement locations were,

- a. 3rd Floor East side northeast corner office (see Figure 2.1),
- b. 2nd Floor East side center of building (see Figure 2.2) and
- c. 3rd Floor West side of center of building (see Figure 2.3),

Sound level measurements were made with three Convergence Instruments Model NSRT_mk4, Type 1 Logging sound level meters. With NIST traceable calibration, calibration date 01-Feb-24.

Results of the sound level measurements show that the 7-day interior DNLs are,

- a. 3rd Floor East side northeast corner office – DNL 41, with variance of -2 and +1.
- b. 2nd Floor East side center of building – DNL 41, with variance -2 and +1.
- c. 3rd Floor West side of center of building – DNL 39, with variance -2 and +1

The measured DNLs inside the building are below the HUD interior limit of DNL 45 for residential buildings between the DNL 65 and 70 noise contours. Therefore, the building interior is compliant with HUD requirements for residential buildings.

Note: the noise floor of the sound level meters is 30 dBA. So, DNLs on the west side of the building will be lower than measured.

3.0 OITC Analysis Results

The standard method for determining the level of sound reduction from outside a building to inside a building is with a noise parameter defined as the Outdoor-Indoor Transmission Class (OITC). This classification yields a measure of the noise reduction through the building exterior façade elements. The expected sound levels inside a building is the average outside noise levels minus the OITC rating. For this analysis the outside noise levels are the maximum expected DNL, or DNL 70 (based on current Centennial Airport Noise Contours).

The OITC rating is determined via the methodology defined in ASTM E1332, 'Standard Classification for Determination of Outdoor-Indoor Transmission Class (OITC)'.

Typically, for a building such as 327 Inverness Drive East, the residential unit that has the greatest exterior façade element area (sum of walls and window areas) is used. In this case proposed unit 313, which is the northeast corner unit on the 3rd floor, see Figure 3.1.

The OITC rating was calculated using standard acoustical engineering methods to calculate the composite Sound Transmission Class (STC) rating of building façade elements and then using the procedures outlined in ASTM E1332 (current revision). The composite STC calculation accounts for the exterior surface area and STC rating for each façade element; walls, roof, windows, and doors. The ASTM E1332 procedure to calculate the Outside-Indoor Transmission Class (OITC) rating incorporates the composite STC data as input. Description of the Composite STC and OITC calculation methodology is shown schematically in Figure 3.2.

For this analysis the following assumptions were made,

- Exterior windows – double pane, two 1/8-inch-thick panes with ½-inch air gap between panes, STC rating 28 to 30.
- Exterior walls – 4-inch-thick brick veneer, ½ to 1-inch air gap, exterior sheathing (OSB or other), 3-5/8-inch steel studs, R-13 fiberglass batt insulation and one layer of 5/8-inch thick gypsum interior surface. STC rating 50 to 55.
- Roof – steel decking, with 2 to 4-inches of insulation and membrane or asphalt coating, 36-inch plenum space with 5/8-inch-thick gypsum hard ceiling. STC rating 50 to 55.

327 Inverness Drive East – Aircraft Noise Assessment
15 May 2024
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The OITC calculation sheet is shown in Figure 3.3 and shows a predicted OITC rating of 31. Based on this OITC rating the expected interior DNLs are 41.

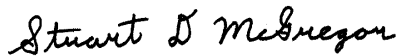
4.0 Conclusion

Results of the sound level measurements and the OITC analysis show that existing and expected DNLs inside residential units in 327 Inverness Drive East will be below the HUD interior limit of 45 DNL for residential buildings within a DNL of 65 to 70.

Therefore the building can be converted from commercial to residential, with no additional noise mitigation as long as the windows are not changed and the exterior wall construction is not significantly changed.

If you have any questions, please contact me at our Englewood office.

Sincerely,
ENGINEERING DYNAMICS, INC.

A handwritten signature in black ink that reads 'Stuart D. McGregor'.

Stuart D. McGregor, P.E.
President

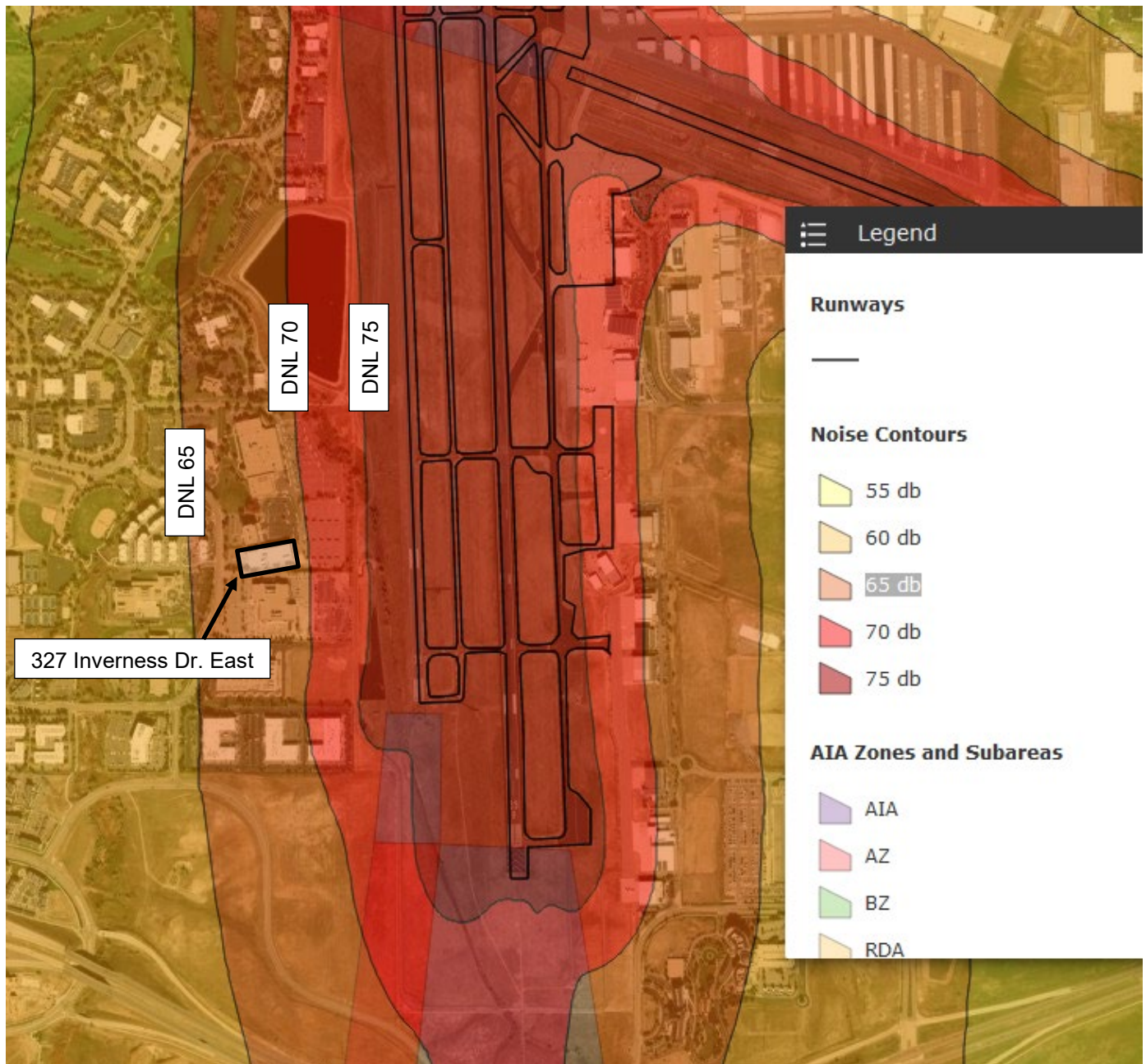


Figure 1.3: Centennial Airport Noise Contours

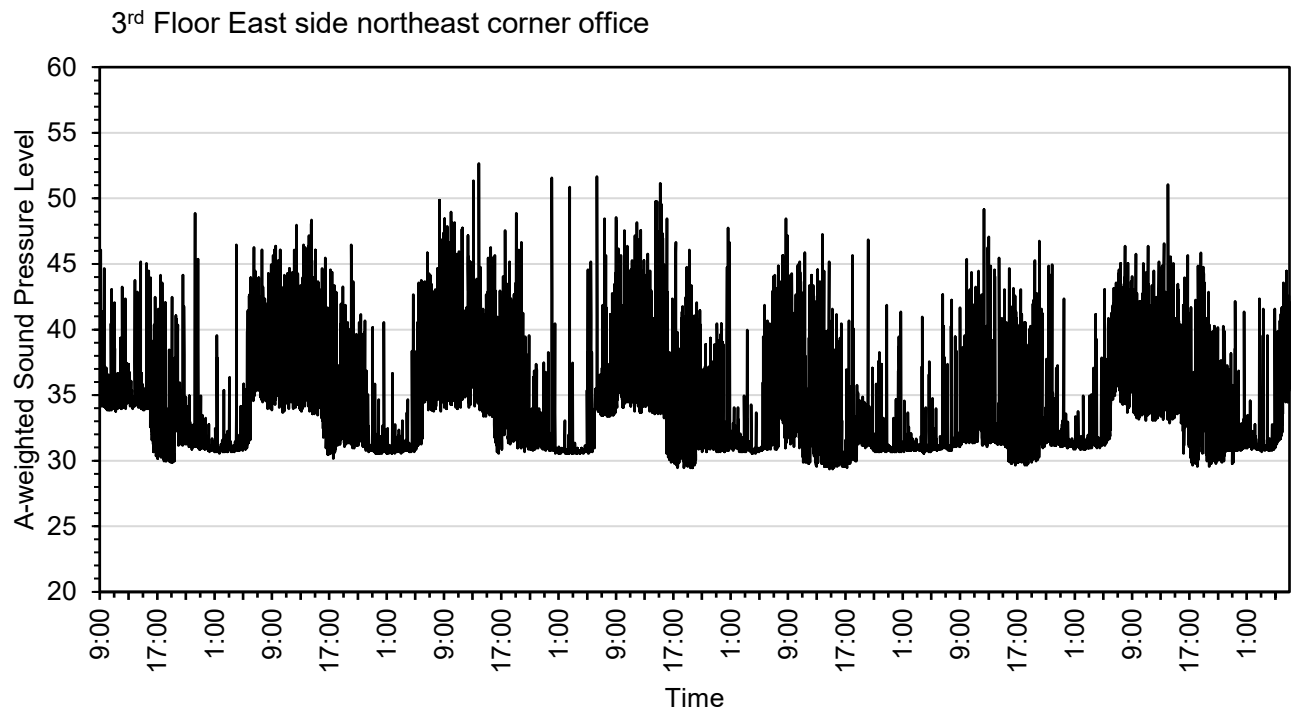


Figure 2.1: 3rd Floor East side northeast corner office

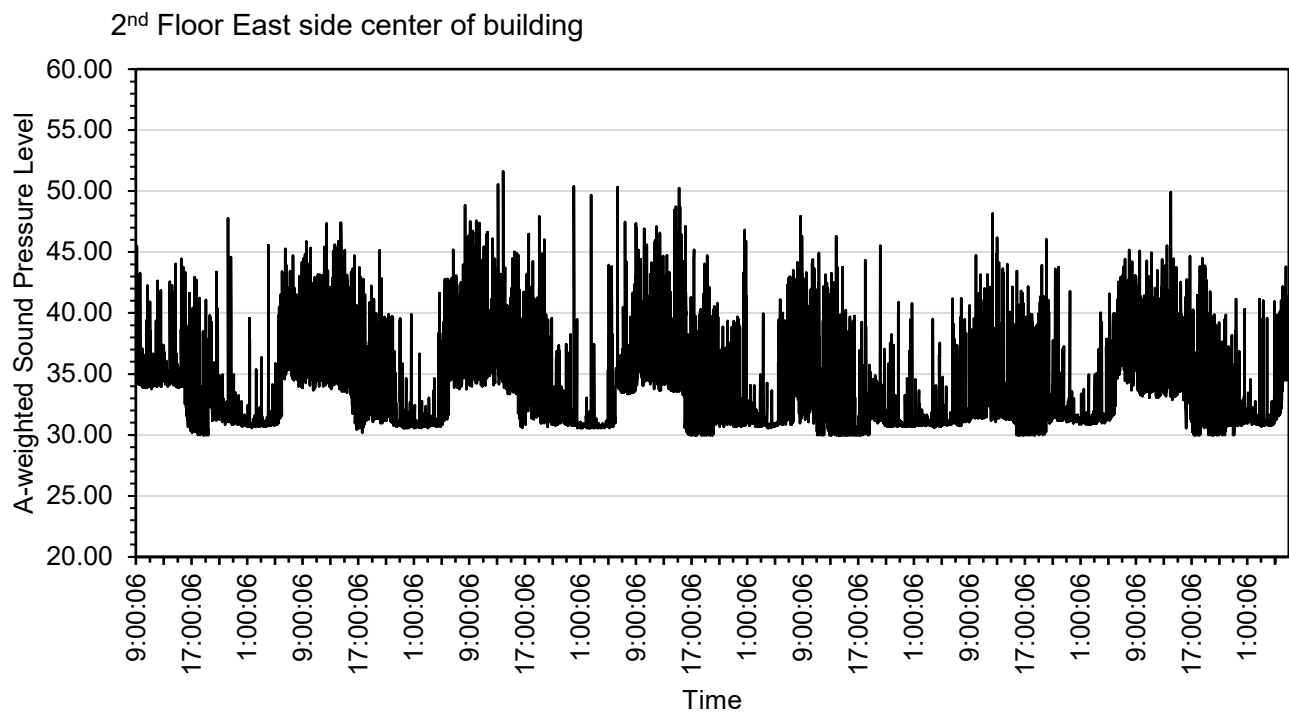


Figure 2.2: 2nd Floor East side center of building

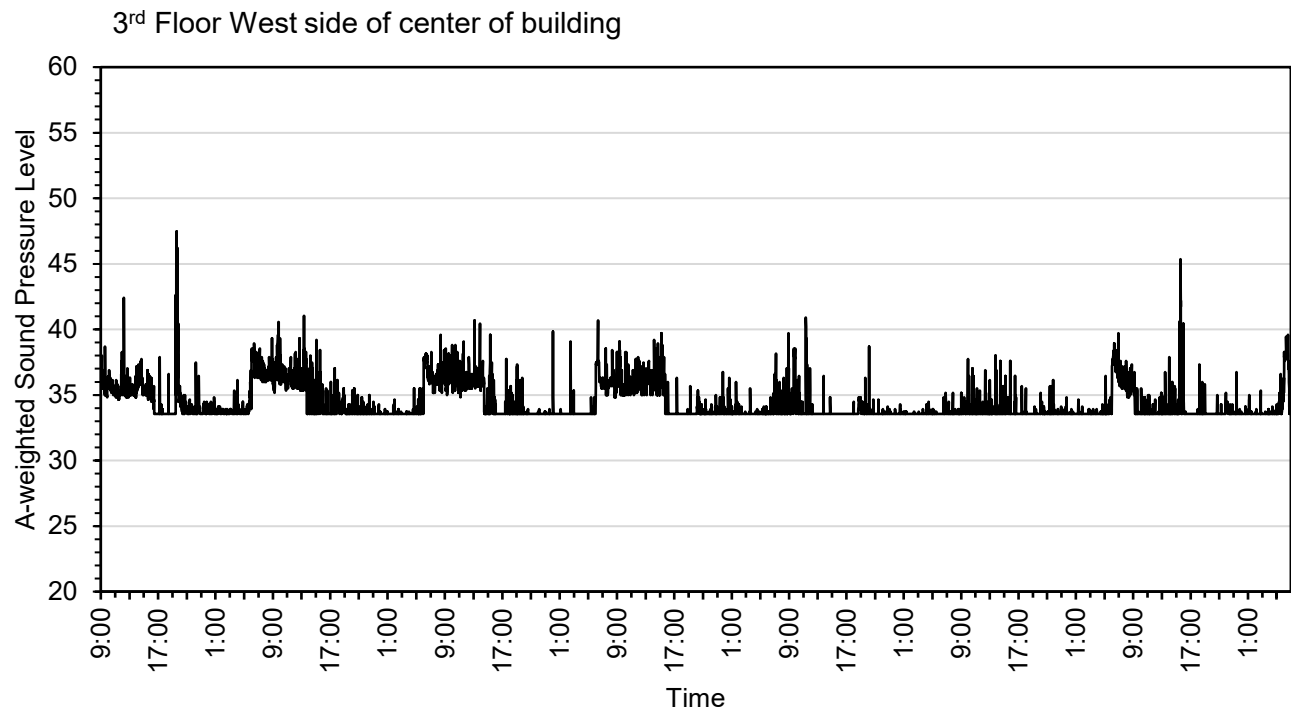


Figure 2.3: 3rd Floor West side of center of building

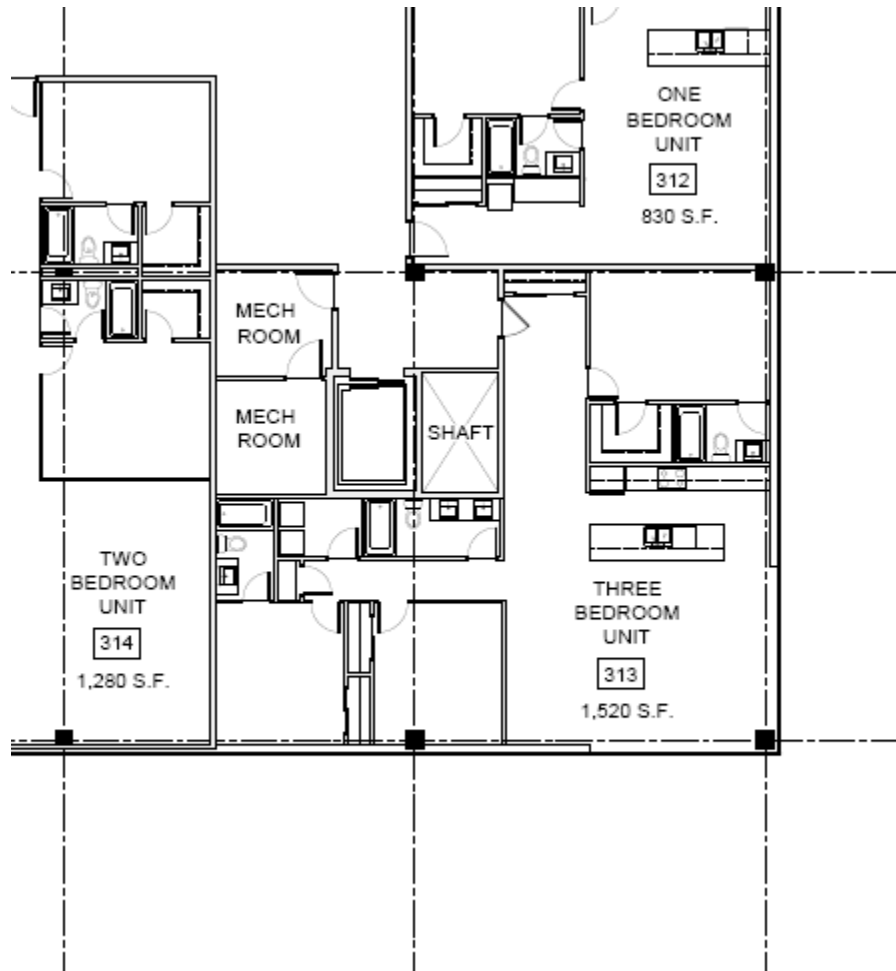
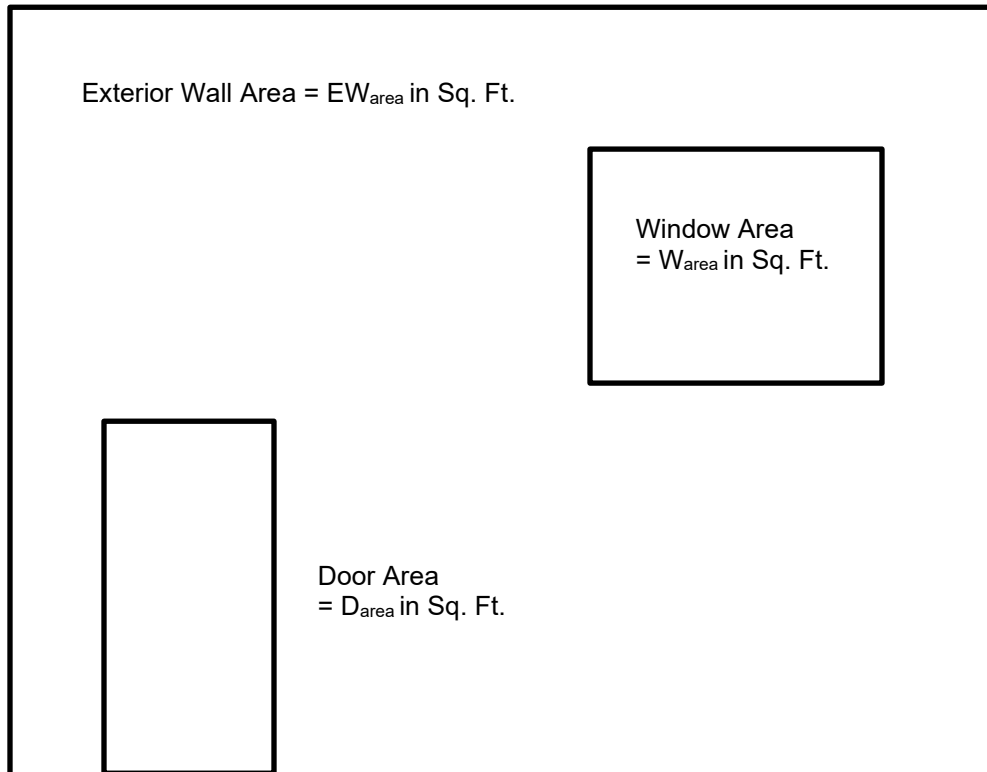


Figure 3.1: Unit 313



$$STC (Composite) = 10 * \log \left[\frac{\sum Facade Element Area_i}{\sum 10^{(Facade Element \tau_i / 10)}} \right]$$

$$OITC = 100.14 - STC(composite)$$

Where,

Facade Element Area i = is the area of the i^{th} façade element in square feet

Facade Element τ_i = is the STC rating of the i^{th} façade element, at a specific 1/3-octave frequency.

The composite STC is calculated at each 1/3-octaveband frequency from 80 to 4000 Hz, as required by ASTM E1332.

Figure 3.2: Composite STC and OITC Calculation Method

327 Inverness Drive East – Aircraft Noise Assessment
 15 May 2024
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Room Identifier:		Unit 313 Living Area																	
Facade Element	Area ft ²	Description																	
Roof	880	Lightweight steel decking roof with 36 inches plenum space																	
Walls	132	3-5/8 inch steel studs with																	
Windows	488	STC 35 Glazing																	
Total Exterior Façade Element Area		1500																	
Building Façade Element Transmission Loss Coefficients																			
		1/3 Octave Centerband Frequency, Hz																	
		80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000
Roof	26	29	32	36	36	40	39	47	52	52	53	55	57	58	58	49	49	54	54
Exterior Walls	28	31	34	36	46	47	51	55	56	56	60	61	60	63	59	52	54	57	57
Windows	25	21	24	20	23	19	19	24	29	34	37	40	42	43	45	46	44	35	35
ASTM 1332 Reference Spectrum		103	102	101	98	97	95	94	93	93	91	90	89	89	88	88	87	85	84
A-weighting Correction		-22.5	-19.1	-16.1	-13.4	-10.9	-8.6	-6.6	-4.8	-3.2	-1.9	-0.8	0	0.6	1	1.2	1.3	1.2	1
Composite Transmission Loss Values		25.8	24.7	27.7	24.7	27.5	23.8	23.8	28.8	33.8	38.7	41.7	44.6	46.6	47.6	49.5	47.9	46.8	39.8
Third Octave OITC		54.7	58.2	57.2	59.9	58.6	62.6	63.6	59.4	56	50.4	47.5	44.4	43	41.4	39.7	40.4	39.4	45.2
Outdoor-Indoor Transmission Class	31																		

Figure 3.3: 327 Inverness Drive East OITC Calculation Sheet

17 April 2025

Tower 22 LLC
Attn: Ms. Karen Kennedy
Denver CO 80231

Page 1 of 8

Voice: 417-988-8326

RE: SEL Aircraft Noise Measurement Results
327 Inverness Drive East
EDI Job # C-4467-2

Dear Ms. Kennedy:

Engineering Dynamics, Inc. has completed updated sound level measurements inside the 327 Inverness Drive East building, located in Douglas County, Colorado. These measurements were made to determine the Single Event Levels (SELs) from aircraft operations at Centennial Airport and then determine the Day-Night Levels (DNLs) inside the proposed residential areas of the building.

1.0 Measurement Locations and Dates

Sound level measurements were made in the 3rd floor northeast corner private office. This location was chosen to minimize noise from other activities, currently in process, inside the building. This location also presents the worst-case SEL generated DNL for noise inside the building. The SEL generated DNLs from the measurement's location will be representative for SEL generated DNLs of residential units along the east side of the building. For residential units along the North, South and West sides of the building, the SEL generated DNLs will be less than the measured east side SEL generated DNLs. The calculated SEL generated DNLs for residential units along the North, South and West sides of the building will be presented in the results section of this report.

Sound levels were measured from ~11:30am on Thursday 27-Feb-25 through noon on Sunday 9-Mar-25, for a total of eight days of sound level measurements.

NOTE: data was not taken on Tuesday the 1st of March 2025, due to inclement weather.

2.0 Instrumentation and Measurement Parameters

Sound level measurements were made with one Convergence Instruments Model NSRT_mk4, Type 1 Logging sound level. The instrument was field calibration checked at the beginning and end of the measurements, with a Larson Davis Model CAL200 Acoustic Calibrator, SN 12548, with NIST calibration date of 20-Jan-25.

Beginning Calibration Check Level – 94.0 dB

Ending Calibration Check Level – 94.0 dB.

The sound level meter was configured to acquire and log A-weighted sound levels on 1-second intervals.

3.0 Measured Sound Level Results

The measured 1-sec sound levels for the eight measurement days are shown in Figures 3.1 through 3.8.

The logged aircraft events were then analyzed to determine the SEL for aircraft events producing measured sound levels above 45 dBA. These SEL events were then used to calculate the interior DNL for each 24-hour period. For SEL events between 22:00:00 and 07:00:00 the DNL 10 dB nighttime adjustment was added to the SEL level in the DNL calculation process.

Table 3.1 shows the SEL generated DNLs for each measurement day, for the measurement location. This location in the building has the greatest aircraft noise impact. Locations along the north, south, and west sides of the building will have lower levels of aircraft noise impact.

Table 3.1: SEL Generated DNLs for Residential Units along the East side of the Building

Day #	Date	Time	SEL Generated DNL
1	27-Feb-25 to 28-Feb-25	11:50am to 11:50am	50
2	28-Feb-25 to 1-Mar-25	11:50am to 11:50am	49
3	1-Mar-25 to 2-Mar-25	11:50am to 11:50am	48
4	2-Mar-25 to 3-Mar-25	11:50am to 11:50am	50
5	5-Mar-25 to 6-Mar-25	9:00am to 9:00am	48
6	6-Mar-25 to 7-Mar-25	9:00am to 9:00am	47
7	7-Mar-25 to 8-Mar-25	9:00am to 9:00am	45
8	8-Mar-25 to 9-Mar-25	9:00am to 9:00am	47
Average SEL Generated DNL in Measurement Room			48 (-3, +2)

4.0 Interior SEL Generated DNLs

The level of aircraft noise intrusion into the building depends on the noise reduction across the exterior façade elements of the building, with walls providing greater noise attenuation than windows. The exterior façade elements for the 3rd floor residential units are as follows.

3rd Floor Ceiling Height – the ceiling throughout the 3rd floor is 8-1/2 feet to bottom of Tee Grid ceiling and ~3 feet of plenum space to exterior structural concrete beam.

Exterior Glazing – the existing exterior glazing around the entire 3rd floor is 1-inch thick (1/4-glass, 1/2-inch air space, 1/4-inch glass). This configuration of windows has a Sound Transmission Class (STC) rating of 36.

North, South and West Sides – have a ~2-foot exterior wall (from floor to 3 feet), then 5-1/2 feet of glazing (window) and ~1/2-foot soffit above the windows.

East Side – has 8-feet of glazing with and ~1/2-foot soffit above the windows.

Aircraft noise intrusion into the residential units is through the exterior façade elements and decreases further into the residential unit; the further from the exterior of the building.

East Side of Building – has the greatest level of aircraft noise exposure, receiving direct noise exposure for aircraft taking off and landing Runways 17/35R and 17/35L. The other three sides of the building have lower direct aircraft noise exposure. Also, aircraft noise levels are on the order of 10 to 15 dB lower during landing than during take-off.

West Side of Building – has almost no direct noise exposure from aircraft take-offs and landings and only has noise exposure from aircraft in the 35L/17R pattern (downwind). The exterior noise exposure for residential units on the west side of the building is more than 10dB less than the east side of the building.

North Side of Building – has direct noise exposure for aircraft taking off towards the north and south, with a shorter time of exposure for aircraft taking off towards the south and aircraft landing towards the north.

South Side of Building – has direct noise exposure for aircraft taking off towards the south (although lower time of exposure than the east side of the building) and landing from the south. The south side of the building has much lower noise exposure for aircraft taking off towards the north.

Expected interior SEL Generated DNLs for residential units along each side of the building are shown in Table 4.1. These interior DNLs consider noise level exposure and noise attenuation inside the residential unit. The predicted levels are inside the residential units, after final construction has been completed.

Table 4.1: Interior DNLs in Residential Units along each Side of the Building

Side of Building	SEL Generated Interior DNLs		
	Living Area along Exterior Wall	First Interior Bedroom	Second Interior Bedroom
North	45	<40	<35
South	45	<40	<35
East	48	<43	<38
West	<40	<35	<30

Inspection of Table 4.1 shows,

- All interior bedrooms or rooms NOT along the exterior walls of the building will have SEL generated DNLs less than 45.
- For residential Units on the North and South sides of the building Living Areas or rooms along the exterior walls of the building, will have interior SEL generated DNLs that are at 45.
- For residential Units on the East side of the building Living Areas or rooms along the exterior walls of the building, will have interior SEL generated DNLs that exceed 45 by 3 dB.
- For residential units on the East side of the building, living areas or rooms along the exterior walls of the building will have interior SEL-generated DNLs that exceed 45 by 3 dB. Unless interior partition walls separate the living space from the exterior walls or glass mitigation measures are implemented.

5.0 Noise Mitigation

For this building mitigation/reduction of aircraft noise intrusion into the building along the east exterior wall can be achieved by several options,

- Replacing the exterior glass on the east side of the building with glass that has a STC rating of 39 or more.
- Configuring the residential layout so that there are no residential living areas along the east side of the building, or
- Configuring the residential layout so there is a partition wall between the east exterior wall and any living areas (i.e. a hallway is created along the east side of the building, the east side of the building is made to be a common area use such as a gym or lounge, etc.).

327 Inverness Drive East – Aircraft Noise Assessment
17 April 2025
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- d. Determination of the predicted interior SEL generated DNLs will depend on an acoustical review of the final interior layout

Noise intrusion into a building is directly analogous to heat loss or cold air intrusion into a building. For thermal insulation of a building, most of the heat loss or cold intrusion is through the façade element with the lowest R-value, the windows. The dominant path for noise intrusion is through the façade element with the lowest STC rating, the windows. For this building, the current exterior walls have an STC rating of 45 to 50, and the current windows have an STC rating of 36. So, most of the noise entering the building is through the windows, not through the walls. Therefore, an effective approach to reduce interior aircraft-related noise to levels below 45 dB in the entire building is by increasing the STC rating of the exterior windows along the east side of the building where any residential units are located. Installation of new window glazing that provides STC ratings of 39 or greater along the east exterior of the building where any residences are located shall provide a living space that meets and exceeds the DNLs required for residential occupancy in the building.

Alternatively, having an interior wall built with standard construction techniques between the building's east external wall and any living areas would achieve mitigation would provide a living space that meets and exceeds DNLs required for residential occupancy in the building.

6.0 Summary

The SEL aircraft noise measurements made between Thursday 27-Feb-25 through noon on Sunday 9-Mar 25, show that the SEL generated Interior DNLs in the 327 Inverness Drive East building only exceed the HUD interior DNL limit of 45 by 3 dB and only for rooms along exterior walls on the east side of the building. All other interior spaces have interior SEL-generated DNLs are at or less than the HUD interior DNL limit of 45.

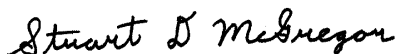
It is recommended that the final residential design implement one of two noise mitigation paths.

One, along the east side of the building, incorporates a separation of the exterior of the building and the residential units with a wall or common area element.

Two, remove and replace existing exterior glazing with new window glazing that has an STC rating of 39 or higher along the east side of the building where any residence is located.

If you have any questions, please contact me at our Englewood office.

Sincerely,
ENGINEERING DYNAMICS, INC.



Stuart D. McGregor, P.E.
President

Figure 3.1: Day 1 Measurement Data, 11:50am 27-Feb to 11:50am 28-Feb 2025

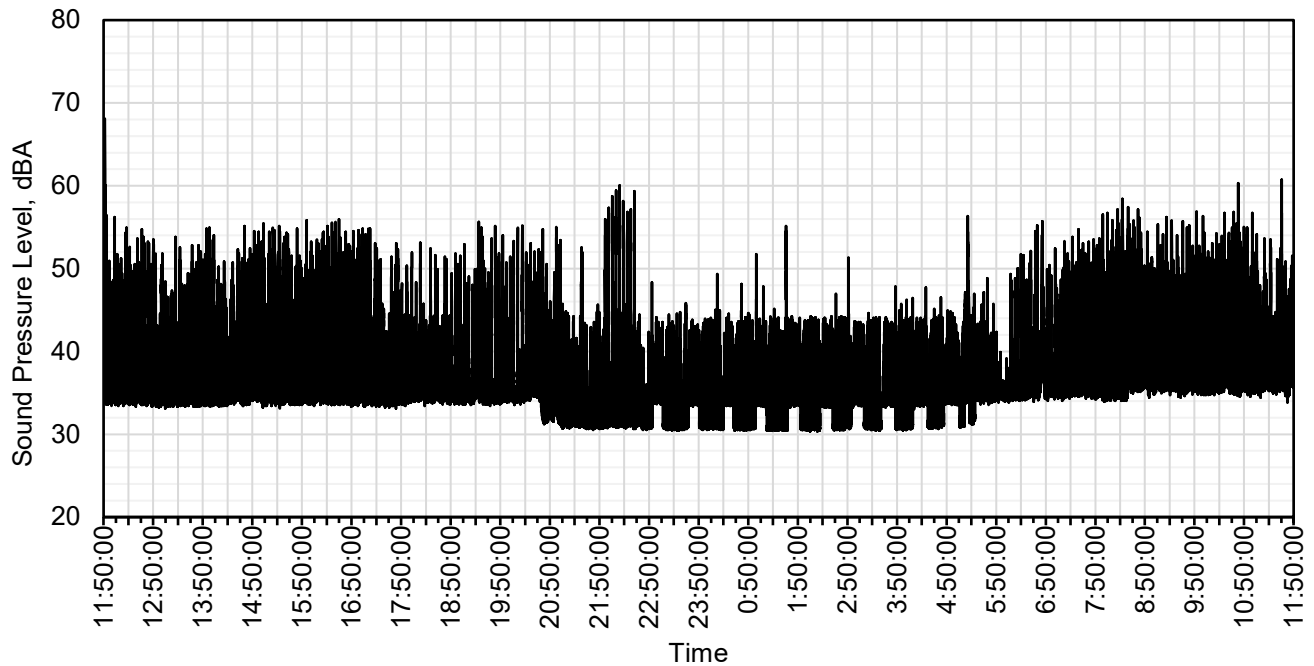


Figure 3.2: Day 2 Measurement Data, 11:50am 28-Feb to 11:50am 1-Mar 2025

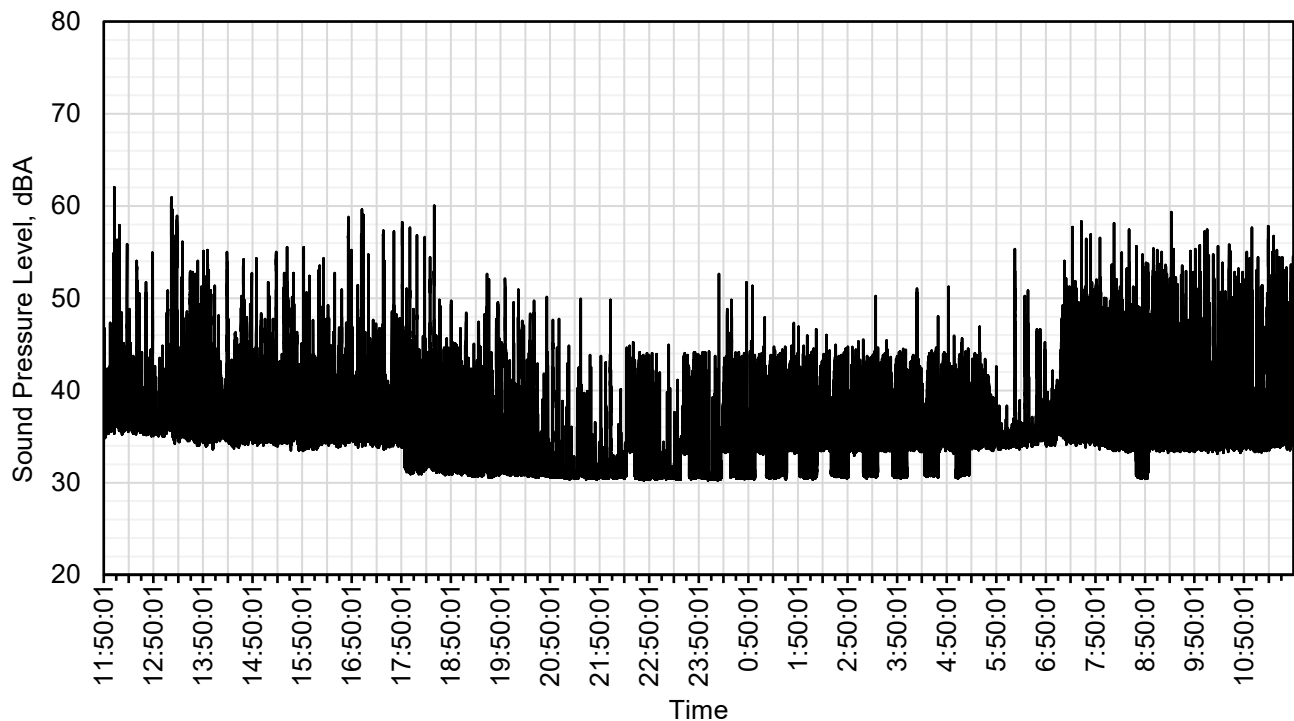


Figure 3.3: Day 3 Measurement Data, 11:50am 1-Mar to 11:50am 2-Mar 2025

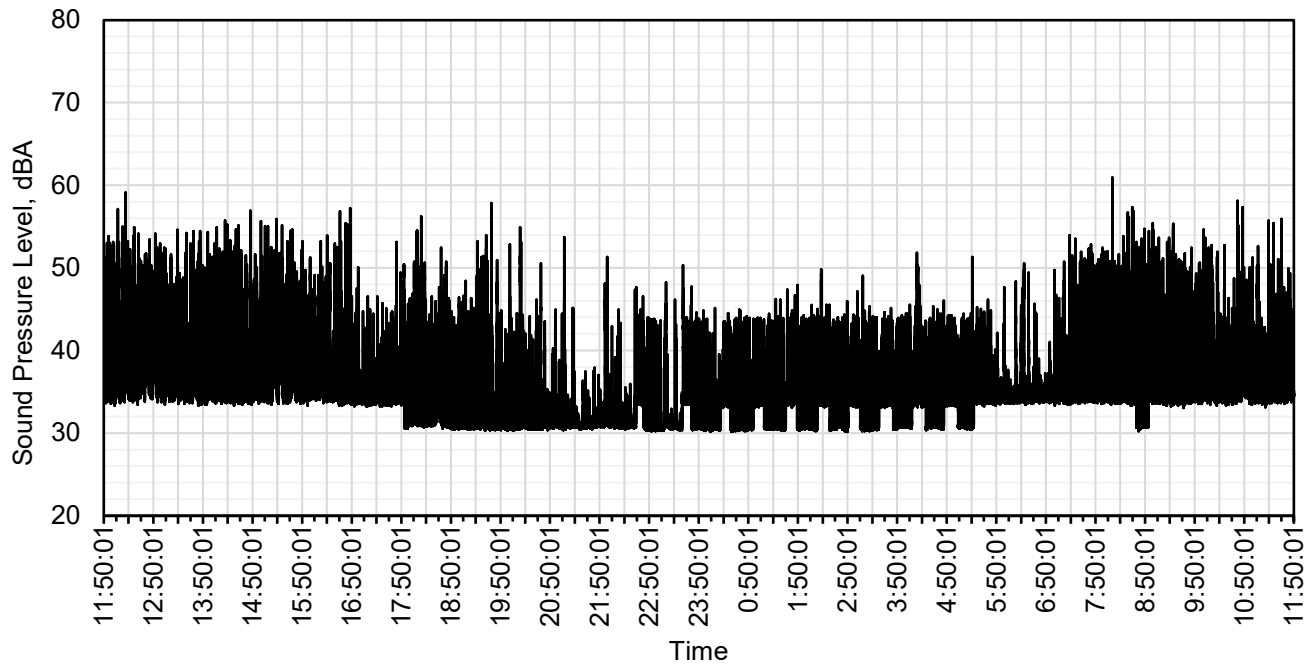


Figure 3.4: Day 4 Measurement Data, 11:50am 2-Mar to 11:50am 3-Mar 2025

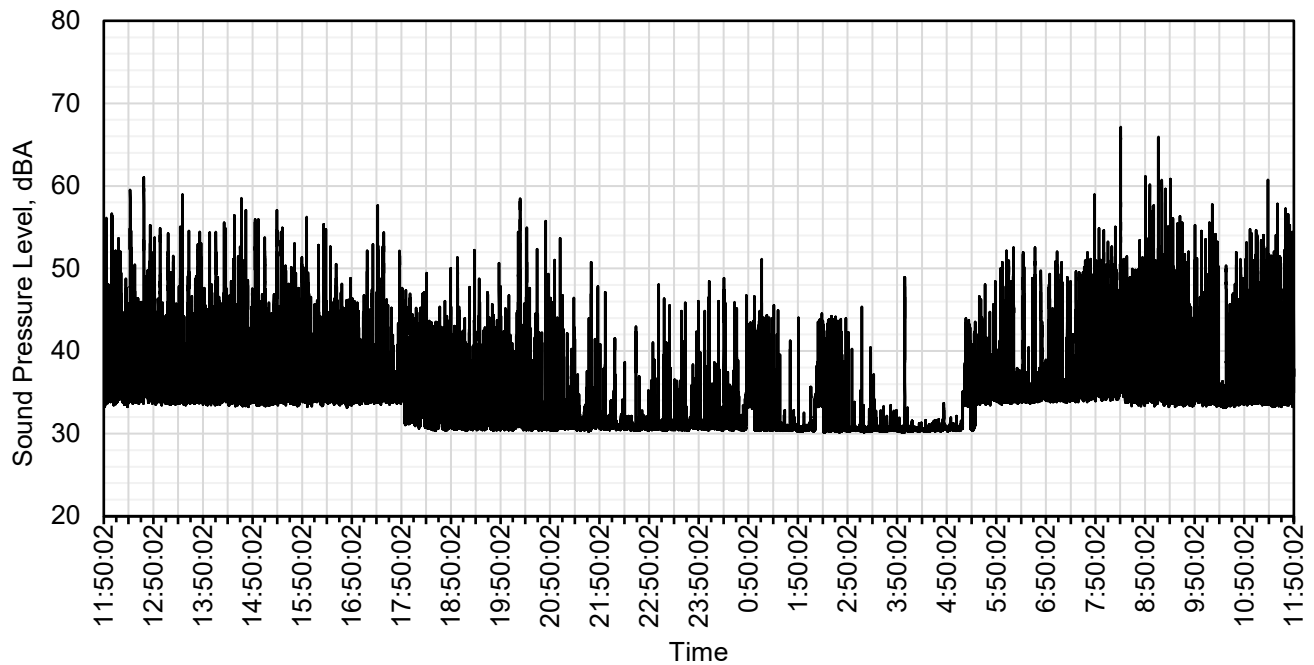


Figure 3.5: Day 5 Measurement Data, 9:00am 5-Mar to 9:00am 6-Mar 2025

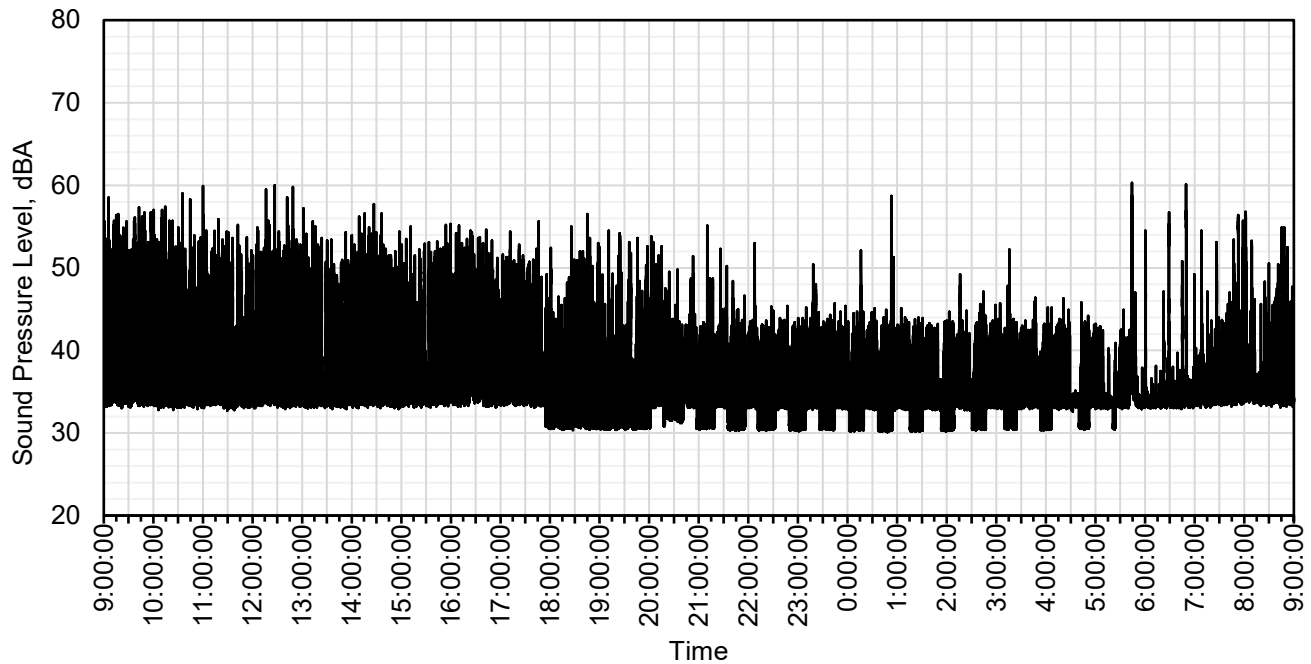


Figure 3.6: Day 6 Measurement Data, 9:00am 6-Mar to 9:00am 7-Mar 2025

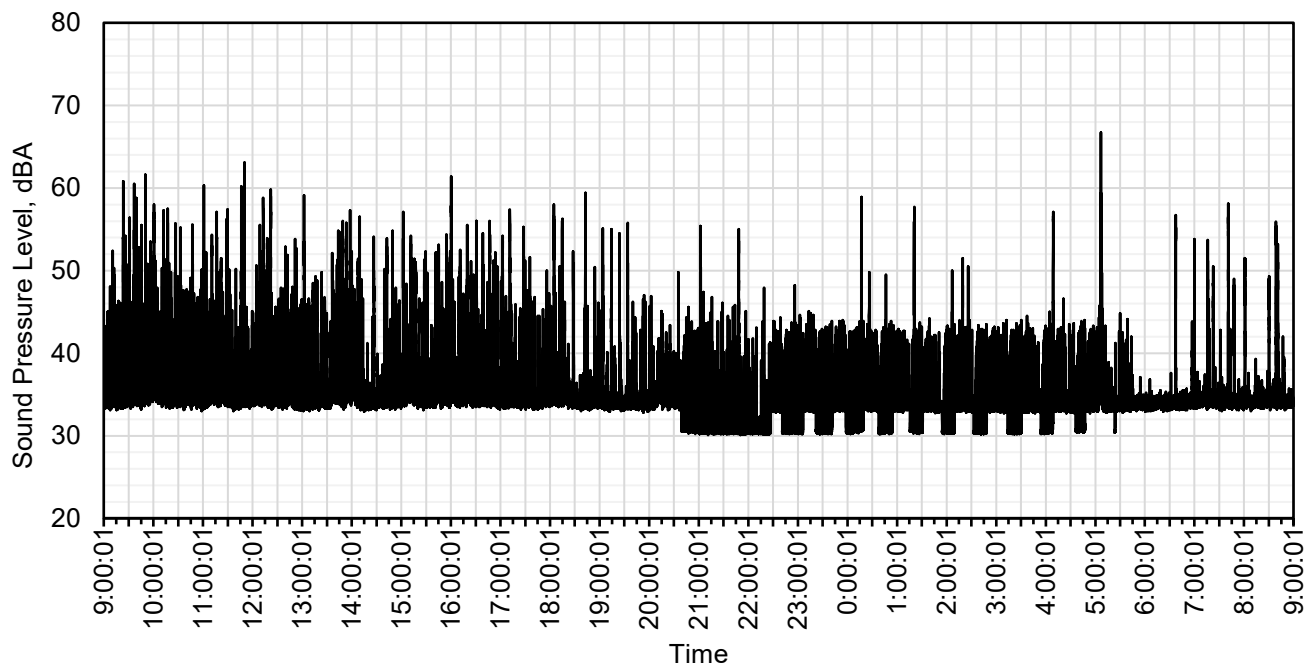


Figure 3.7: Day 7 Measurement Data, 9:00am 7-Mar to 9:00am 8-Mar 2025

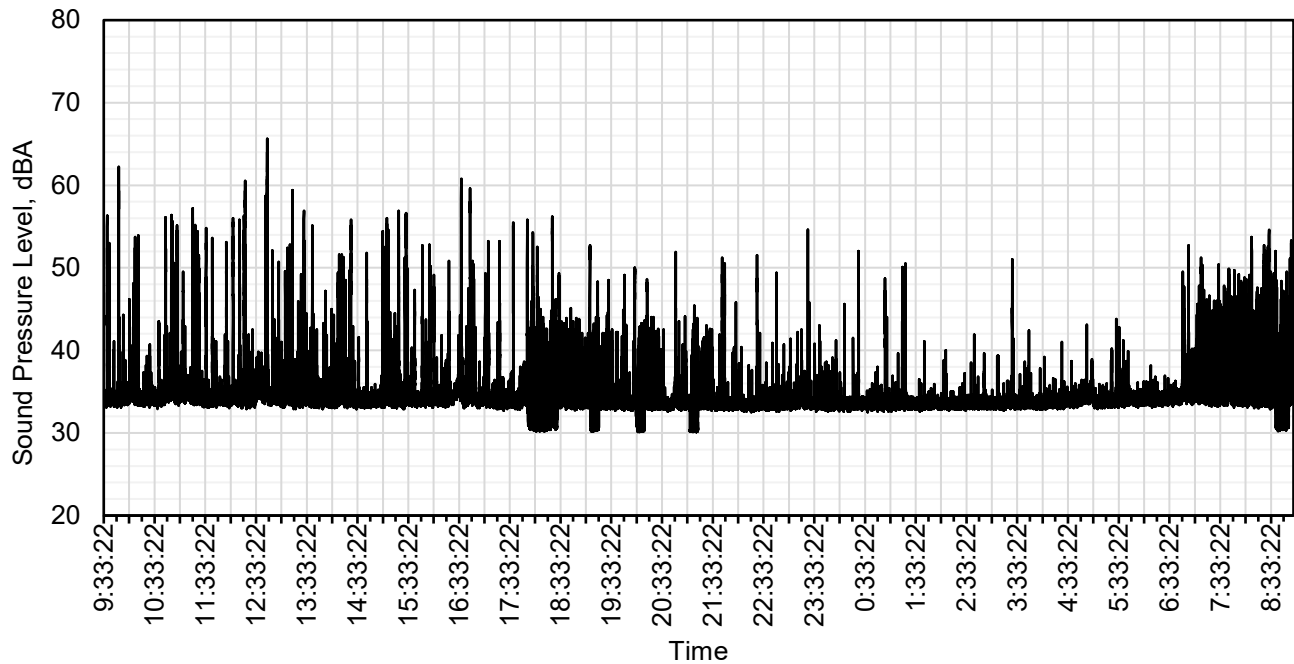
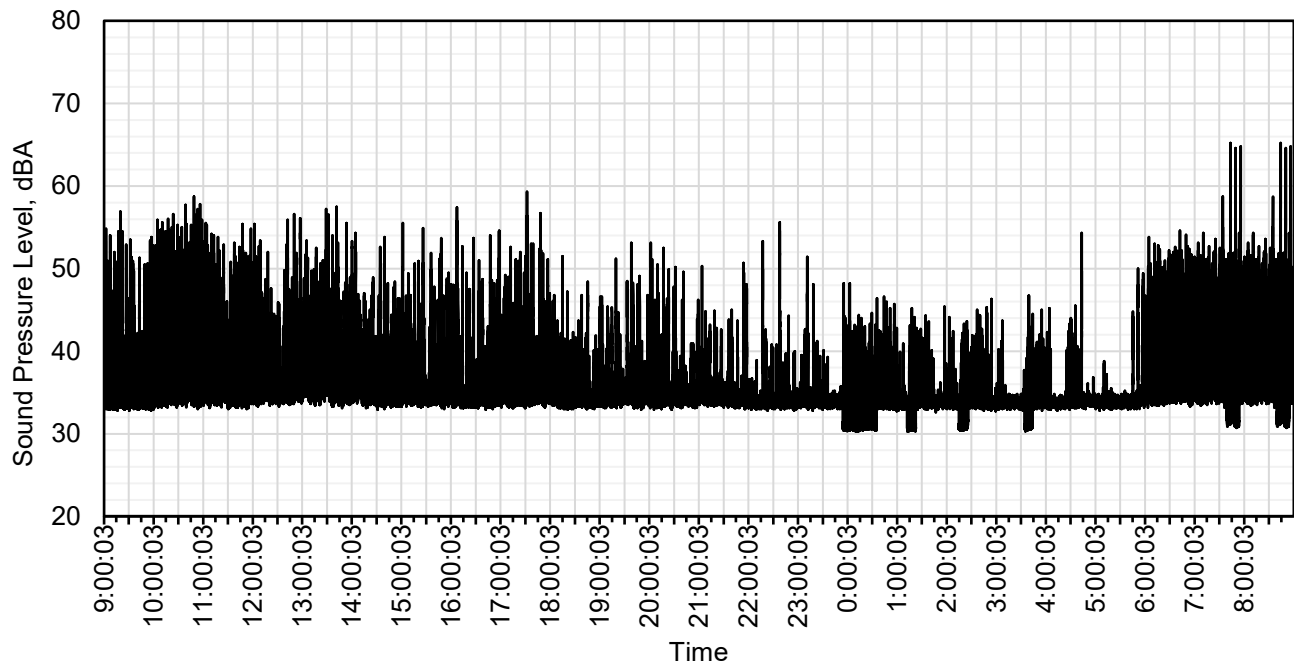


Figure 3.8: Day 8 Measurement Data, 9:00am 8-Mar to 9:00am 9-Mar 2025



December 11, 2024

Mike Pesicka, Principal Planner
Douglas County Department of Community Development
100 Third Street
Castle Rock, Colorado 80104

Re: Inverness Overlook Noise Impact Review (DLAA #15-211-Z1)

Mr. Pesicka,

We have reviewed the documents and information you provided regarding the proposed Inverness Overlook project located at 327 Inverness Dr. South. The information provided includes an Aircraft Noise Assessment conducted by EDI dated May 15, 2024, and a USR Project Narrative by Baseline Engineering Corp. The following memo summarizes our review of these documents with respect to the noise impacts on the Inverness Overlook project site.

The existing building - a three-story office building proposed for adaptive re-use as multi-family residential - is directly adjacent to Centennial Airport and within its Noise Sensitive Zone (NSZ). Exterior noise levels are expected to exceed Douglas County/HUD normally acceptable criteria of 65 DNL. With no reduction in these exterior noise levels anticipated, the applicant cites the HUD Normally Acceptable interior criteria of 45 DNL. The provided documents propose that the current building exterior façade elements are sufficient to meet this interior noise criteria.

We find the technical content of the initial noise study, i.e. calculation methodologies, to be satisfactory. Long-term noise measurements taken inside the current building demonstrate that actual interior noise levels fall below 45 DNL. Additionally, OITC calculations were provided to estimate resulting interior noise levels from published exterior noise data and were found to agree with the measured data.

We have conducted an independent noise assessment and can confirm the site falls between the 65 and 70 DNL contours on Centennial's Airport Influence Area Map. An OITC check using HUD's STraCAT tool agrees with EDI's assessment. Note that if doors, windows, or other exterior building elements are changed at any point, only materials with equivalent or better sound isolation performance should be used.

Please do not hesitate to reach out with any questions.

Sincerely,



William D. Hesser P.E.
Senior Acoustical Consultant

From: [William Hesser](#)
To: [Michael Pesicka](#)
Cc: [Ted Pitney](#)
Subject: RE: Douglas County Land Use Application Referral
Date: Tuesday, May 6, 2025 11:31:43 AM

Hi Mike,

We've reviewed the 7-day noise test by EDI and find it satisfactory. We generally agree with their recommended upgrades to the building east façade.

Let us know if you have any questions or would like a written review letter.

Best regards,

William D. Hesser P.E.
Senior Acoustical Consultant



From: William Hesser
Sent: Monday, May 5, 2025 11:19 AM
To: 'Michael Pesicka' <mpesicka@douglas.co.us>
Cc: Ted Pitney <tpitney@dlaa.com>
Subject: RE: Douglas County Land Use Application Referral

Hi Mike,

I think that's possible. Ted is out today but I should be able to touch base with him in the morning and get something to you.

Will be in touch shortly.

William D. Hesser P.E.
Senior Acoustical Consultant

