

13 May 2020

Mr. Jason Pock
Richmond American Homes of Colorado, Inc.
4350 South Monaco Street
Denver, Colorado 80237

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Voice: 720-977-3859

RE: Traffic and Aircraft Noise Assessment
Urban Collection at Palmer Village
EDI Job # C-4226

Dear Mr. Pock

Engineering Dynamics, Inc. has completed a Traffic and Aircraft Noise Analysis for the Urban Collection at Palmer Village located at the southwest and southeast corners of Hannah Ridge Rd. and Constitution Ave., in Colorado Springs, Colorado; see Figure 1a and 1b.

1.0 Methodology

Traffic – the development site is located adjacent to Constitution Ave. and more than 1000-feet from Marksheffel Rd., Powers Ave. and S.H. 24. Traffic volume data for this analysis is taken from the 'Feathergrass Transportation Impact Study', by Aldridge Transportation Consultants, dated 13-May-20.

Aircraft – the 2013 Airport Master Plan, Figure 2-13 shows the latest DNL Noise Contours for the Colorado Springs Airport. Figure 1.1 shows the entire Colorado Springs DNL map and Figure 1.2 shows the DNL contours near the development site.

2.0 Applicable Standards

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 or predicted DNL < 65 dB(A),
Normally Unacceptable when the Measured or predicted DNLs > 65 and < 75 dB(A), and
Unacceptable when the Measured or predicted DNLs > 75 dB(A).

For residential housing in the Normally Unacceptable category Interior DNL's MUST be less than 45.

3.0 Analysis Results

3.1 Aircraft Noise

Inspection of Figure 1.2 shows that the entire development site is outside the DNL 65 Noise Contour. Both FAA and HUD regulations only require noise mitigation for residential structures located within the DNL 65 noise contour. Therefore, no noise mitigation is required for aircraft noise from Peterson AFB / Colorado Springs Airport. For a greater level of assurance, EDI encourages the developer to consider sound mitigation techniques described in Section 4.0 of this report.

Additionally, EDI notes that there is an avigation easement of record relating to aircraft overflight.

3.2 Traffic Noise

Figures 3.2a and b show the predicted 2040 Time Frame DNL 65 Noise Contour, is at a distance of 150 feet from the Constitution Ave. right-of-way centerline (centerline of roadway). The current Lot plan shows that Lots 10 to 15, 34 to 39, 42 to 47, 62 to 67 and 82 to 87, will be within the DNL 65 noise contour and will require noise mitigation.

All residential buildings closer than 150-feet to the roadway centerline will require noise mitigation.

4.0 Noise Mitigation

In accordance with HUD guidelines, whenever the combined aircraft and traffic noise levels exceed DNL 65, noise mitigation can either reduce the exterior noise levels to below DNL 65 or the interior noise levels (with windows closed) to below DNL 45.

Exterior noise reduction – for this project, to reduce the 2nd floor exterior noise levels to below DNL 65 would require construction of a noise wall along Constitution Ave. and north to south along the east and west sides of the development site to the DNL 65 Noise Contour distance, with a finish height in the range of 15- feet above grade at the Constitution Ave. right-of-way. Construction of this type of noise wall would be cost prohibitive for this project. Furthermore, the height of such a noise wall would likely be objectionable to the surrounding property owners.

Interior noise reduction – per HUD Guidelines interior noise levels can be reduced to 45 DNL or less, via construction methods. This can be accomplished with standard Residential Energy Code construction and higher STC glazing.

For the 30 residential Lots / residences located between the DNL 65 noise contour and Constitution Ave., compliance with HUD interior 45 DNL noise requirements can be accomplished with the following construction, which is Richmond American Homes standard residential construction,

Exterior Walls – 7/16 inch or thicker exterior OSB with exterior finish on top of the OSB,
2" by 6" exterior wall studs (wood or metal),
R-19 or R-21 fiberglass bat insulation in all exterior wall stud cavities,
Minimum 1/2 gypsum on all interior wall and ceiling surfaces.

Attic Space Insulation – minimum R-38 insulation, fiberglass batting or blown cellulose.

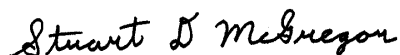
Exterior Glazing (including windows, sliding glass doors and entry door windows) – minimum STC rating of 28.

Roofing – minimum typical asphalt shingles or cementitious tiles.

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

Sincerely,

ENGINEERING DYNAMICS, INC.



Stuart D. McGregor, P.E.
Senior Acoustical Engineer

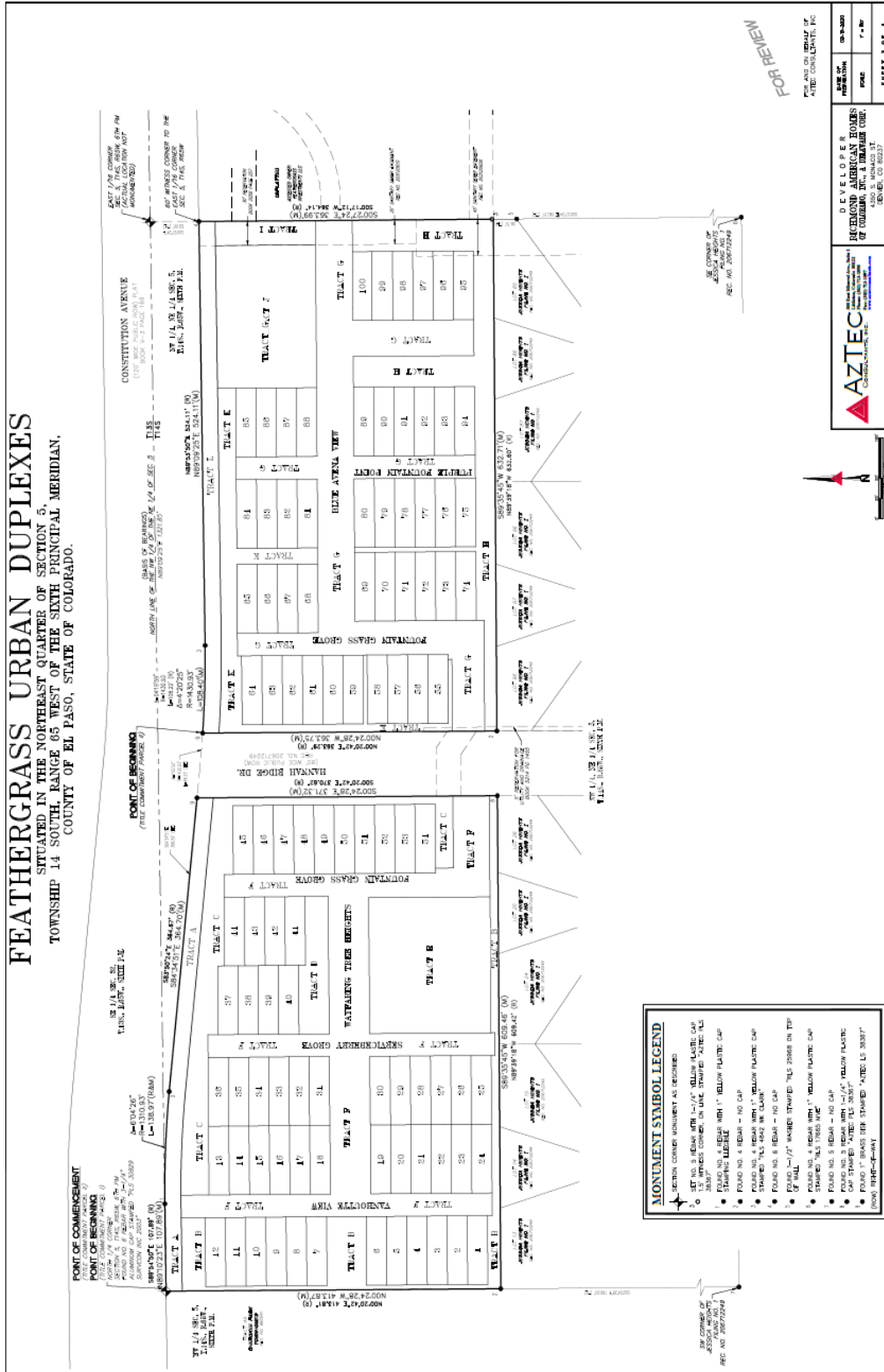


Figure 1a: Feathergrass Development Location



Figure 1b: Feathergrass Development Site

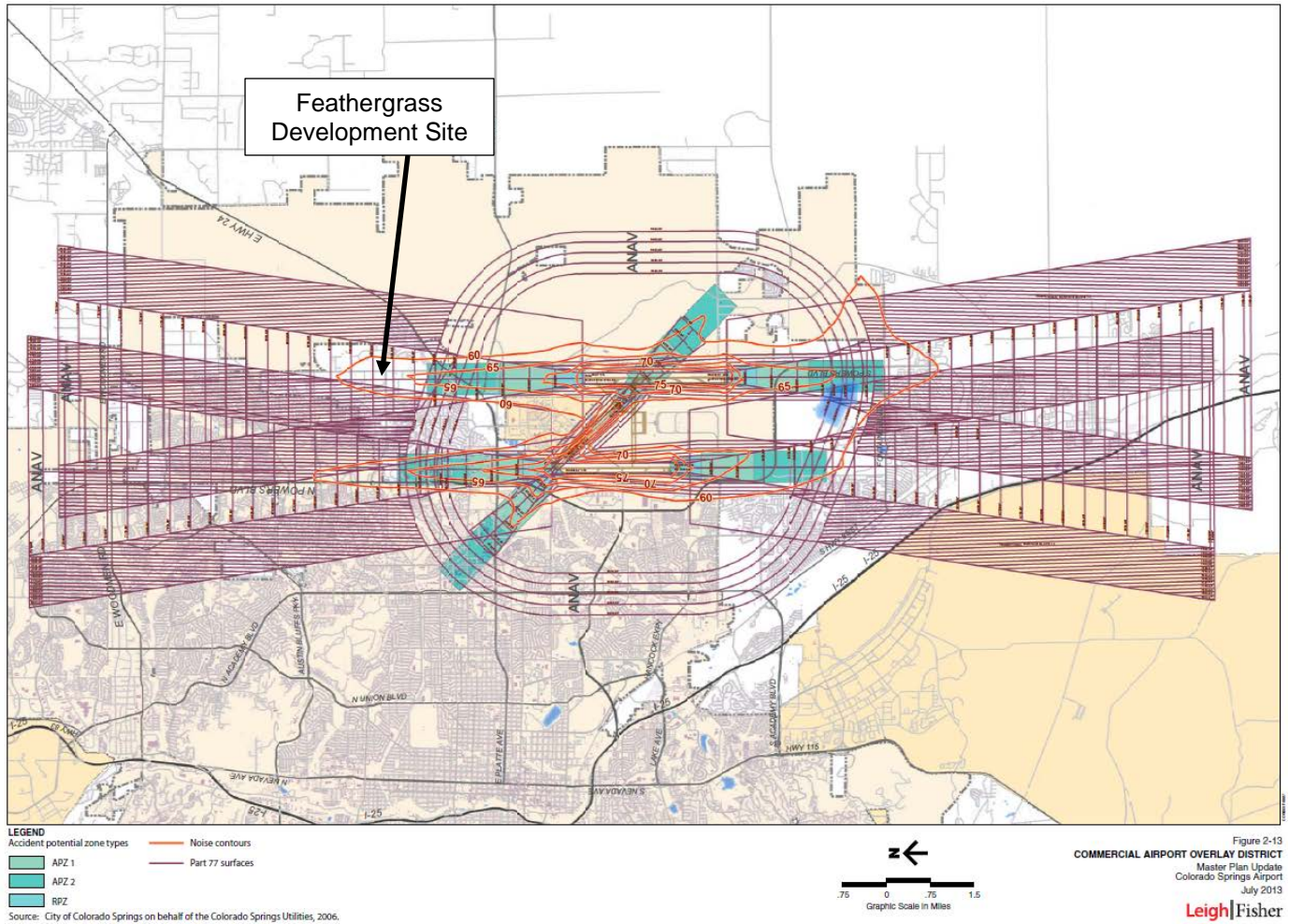


Figure 1.1: Feathergrass Development Site, is between Colorado Springs Airport DNL 60 and 65 Noise Contours

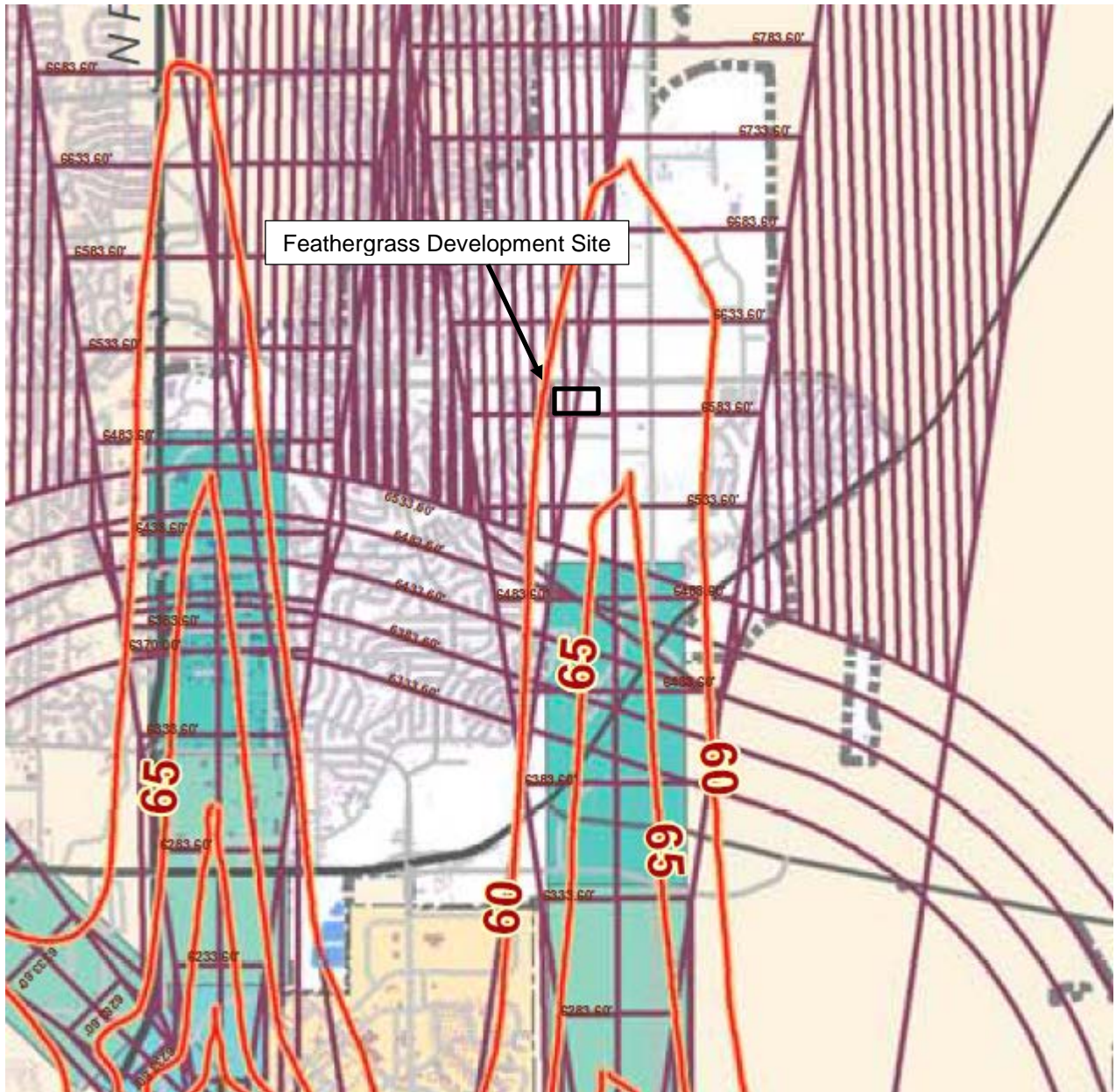


Figure 1.2: Feathergrass Development Site with Respect to Colorado Springs Airport DNL 60 and 65 Noise Contours



Figure 3.2a: 2040 Time Frame Traffic DNL 65 Noise Contour

DNL Calculator

Site ID	Feathergrass
Record Date	04 / 24 / 2020 ✕
User's Name	SDM

Road # 1 Name: Constitution Ave.

Road #1

Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	150	150	150
Distance to Stop Sign	150	150	150
Average Speed	45	45	45
Average Daily Trips (ADT)	25096	256	256
Night Fraction of ADT	15	15	15
Road Gradient (%)			0
Vehicle DNL	58	58	62
Calculate Road #1 DNL	65	Reset	

Figure 3.2b: