TECHNICAL MEMORANDUM

DATE	June 12, 2025
TO	Jordan Clark, Century Communities
ADDRESS	1343 East Gladstone #300 Glendora, CA 91740
FROM	Chris Shields, Senior Associate
SUBJECT	Noise and Vibration Technical Memorandum for Buffalo Grove Residential Development
PROJECT NUMBER	CECO-01

PlaceWorks technical staff has prepared a noise and vibration impact analysis memorandum to support the environmental documentation required under the California Environmental Quality Act (CEQA) for the proposed residential townhome development (proposed project) in Upland, California.

Project Location

The 4.37-acre project site is at 1812 and 1816 Foothill Boulevard in the City of Upland, as shown in Attachment A, *Project Site Plan*. The project site is bounded by Foothill Boulevard (State Route [SR] 66) to the north and various commercial and industrial uses to the west, south, and east. The project site is approximately 1,400 feet south of Cable Airport. The property is primarily vacant but contains improvements associated with the former Buffalo Inn Hotel, including approximately 1,800 square feet of building space, approximately 45,000 square feet of asphalt pavement, and approximately 2,000 square feet of concrete hardscape.

Project Description

The proposed project involves construction and operation of 72 detached townhome units and associated improvements. Development of the proposed project would occur over a single development phase and encompass approximately 169,944 square feet of residential building space, as well as a 1,575-square-foot sewer lift station. The proposed project would offer three different styles of townhomes in sizes from 1,695 square feet to 1,958 square feet. Each unit would have three stories and a two-stall garage, totaling 144 private garage stalls. Also, 25 surface parking stalls encompassing 4,380 square feet would be distributed across the site. An open space amenity area would be provided for residents at the center of the site. Additional improvements include 41,328 square feet of landscaping, 20,500 square feet of concrete hardscape, and 46,200 square feet of asphalt paving. The proposed project is anticipated to be constructed over approximately 5 months between December 2026 and May 2027. Construction activities would generally involve demolition, site preparation, grading, building construction, architectural coating, and paving.

Environmental Settings

NOISE FUNDAMENTALS

Noise is defined as unwanted sound and, when overexposed, is known to have several adverse effects on people, including hearing loss, speech and sleep interference, physiological responses, and annoyance. Based on these known adverse effects of noise, state and city governments have established criteria to protect public health and safety and to prevent the disruption of certain human activities, such as classroom instruction, communication, or sleep.

Noise Terminology

» **Sound.** A disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.

» **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.

» **Decibel (dB).** A unitless measure of sound on a logarithmic scale.

» **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.

» **Equivalent Continuous Noise Level (Leq); also called the Energy-Equivalent Noise Level.** The value of an equivalent, steady sound level which, in a stated time period (often over an hour) and at a stated location, has the same A-weighted sound energy as the time-varying sound. Thus, the Leq metric is a single numerical value that represents the equivalent amount of variable sound energy received by a receptor over the specified duration.

» **Statistical Sound Level (Ln).** The sound level that is exceeded "n" percent of time during a given sample period. For example, the L50 level is the statistical indicator of the time-varying noise signal that is exceeded 50 percent of the time (during each sampling period); that is, half of the sampling time, the changing noise levels are above this value and half of the time they are below it. This is called the "median sound level." The L10 level, likewise, is the value that is exceeded 10 percent of the time (i.e., near the maximum) and this is often known as the "intrusive sound level." The L90 is the sound level exceeded 90 percent of the time and is often considered the "effective background level" or "residual noise level."

» **Day-Night Sound Level (DNL).** The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the sound levels occurring during the period from 10:00 pm to 7:00 am.

» **Community Noise Equivalent Level (CNEL).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added from 7:00 pm to 10:00 pm and 10 dB from 10:00 pm to 7:00 am. For general community/environmental noise, CNEL and DNL values rarely differ by more than 1 dB (with the CNEL being only slightly more restrictive, that is, higher than the Ldn value). As a matter of practice, DNL and CNEL values are interchangeable and are treated as equivalent in this assessment.

» **Sensitive Receptor.** Noise- and vibration-sensitive receptors include land uses where quiet environments are necessary for enjoyment and public health and safety. Residences, schools, motels and hotels, libraries, religious institutions, hospitals, and nursing homes are examples.

» **Peak Particle Velocity (PPV).** The peak rate of speed at which soil particles move (e.g., inches per second) due to ground vibration.

» **Vibration Decibel (VdB).** A unitless measure of vibration, expressed on a logarithmic scale and with respect to a defined reference vibration velocity. In the U.S., the standard reference velocity is 1 micro-inch per second (1x10-6 in/sec).

EXISTING NOISE ENVIRONMENT

The project site is bounded by commercial/retail and industrial uses, including a storage facility to the west, a shopping center to the east, and business park to the south. The project site is also approximately 1,400 feet south of Cable Airport and 900 feet south of a quarry on Airport Drive. The project site is in a predominantly industrial/commercial area with a noise environment influenced primarily by transportation noise from Foothill Boulevard, industrial activities associated with the surrounding uses (equipment use at the quarry, heavy duty vehicles, etc.), and aircraft noise associated with Cable Airport.

Ambient noise measurements conducted in 2009 for the City of Upland General Plan EIR (State Clearinghouse No. 2012041006) indicate that the noise environment in the vicinity of the project site ranges from 67.6 dBA CNEL to 68.9 dBA CNEL (Upland 2015a).[1] Existing traffic noise that was modeled and shown in Table 5.7-4 of the General Plan EIR also indicates that noise levels 100 feet from the centerline on the segment of Foothill Boulevard between Central Avenue and Benson Avenue are 67.6 dBA (Upland 2015a). Short-term noise levels measured in 2019 for an acoustical assessment of the Bridge Point Upland project at the northern boundary of the project site on Foothill Boulevard were 73.5 dBA L_{eq} (Upland 2019).

The majority of the project site is within the 55 to 60 dBA contour of the Cable Airport's Land Use Compatibility Plan (ALUCP) noise contour map, and part in the northwest is within the 60 to 65 dBA contour (see Attachment B, *Cable Airport ALUCP Noise Contours*) (Upland 2015b).[2]

SENSITIVE RECEPTORS

Certain land uses are particularly sensitive to noise and vibration. These uses include residences, schools, hospital facilities, houses of worship, and open space/recreation areas where quiet environments are necessary for the enjoyment, public health, and safety of the community. The nearest sensitive receptors to the project site are single-family residences approximately 640 feet to the east. Other sensitive receptors include an apartment complex approximately 720 feet south of the project site. Due to the distance of these receptors from the project site, the following analysis also evaluates noise and vibration impacts at the adjacent commercial center approximately 30 feet west of the project site boundary.

[1] The measurements referenced here consisted of a measurement on Foothill Boulevard east of Benson Avenue approximately 3,000 feet east of the project site that was 67.6 dBA CNEL and a measurement on Central Avenue south of 11th Street approximately 1,000 feet south of the project that was 68.9 dBA CNEL. The General Plan EIR's existing ambient noise measurements are shown in Table 5.7-5 of the General Plan EIR.

[2] This is based on ALUCP's Map 3E, Future Noise Impact Area. Noise compatibility determinations for the ALUCP are based on future projected noise contours for the airport.

Applicable Standards

STATE NOISE REGULATIONS

California Building Code

The California Building Code (CBC) (California Code of Regulations Title 24, Part 2), Volume 1, Chapter 12, Section 1207.11.2, Allowable Interior Noise Levels, requires that interior noise levels attributable to exterior sources shall not exceed 45 dBA in any habitable room. The noise metric is evaluated as either the day-night average sound level (Ldn) or the community noise equivalent level (CNEL), consistent with the noise element of the local general plan.

The California Green Building Standards Code (CALGreen) has requirements for insulation that affects exterior-interior noise transmission for nonresidential structures. Pursuant to CALGreen Section 5.507.4.1, Exterior Noise Transmission, an architectural acoustics study may be required when a project site is within a 65 dBA CNEL or L_{dn} noise contour of an airport, freeway or expressway, railroad, industrial source, or fixed-guideway source. Where noise contours are not readily available, if buildings are exposed to a noise level of 65 dBA L_{eq} during any hour of operation, specific wall and ceiling assembly and sound-rated windows may be necessary to reduce interior noise to acceptable levels.

LOCAL NOISE REGULATIONS

City of Upland Noise Ordinance

The City's noise regulations are included in Upland Municipal Code Chapter 9.40, also known as the Noise Ordinance. Construction-related and operational noise restrictions must adhere to the following regulations:

- Construction Noise. Section 9.40.100(M) regulates construction noise. The Noise Ordinance permits noise generated by construction activities between the hours of 7:00 am and 6:00 pm on weekdays. Construction noise is prohibited on Sundays and holidays.

- Operational Noise. Section 9.40.070 establishes the exterior noise standards for residential uses, while Section 9.40.080 establishes the exterior noise standards for nonresidential uses. Exterior noise should be measured on the exterior of the properties, and no noise level should exceed the levels presented in Table 1, *City of Upland Residential Exterior Noise Limits*. Section 9.40.080 states that for nonresidential properties, no noise level should exceed the respective base ambient noise levels of 65 dBA at any time for uses not specified, and 75 dBA at any time for industrial and commercial uses. If actual decibel measurements exceed these levels, the actual measurements are employed as the base ambient noise levels.

- Additional Noise Restrictions. Section 9.40.100 lists additional noise sources that are subject to restrictions. For example, Section 9.40.100(E) states that it is unlawful for any person to operate, cause to operate or permit the operation of any machinery, equipment, device, pump, fan, compressor, air conditioning apparatus, or similar mechanical device that would cause the noise level at the property line of any property to exceed the ambient noise base level by 5 dBA. Section 9.40.100(P) also requires that any noise-creating blower or power fan or any internal combustion engine shall be equipped with a muffler device sufficient to deaden such noise.

Table 1 City of Upland Residential Exterior Noise Limits

Maximum Time of Exposure	Noise Metric	Noise Level Not to Be Exceeded	
		7:00 am to 10:00 pm (Daytime)	10:00 pm to 7:00 am (Nighttime)
30 Minutes/Hour	L_{50}	55 dBA	45 dBA
15 Minutes/Hour	L_{25}	60 dBA	50 dBA
5 Minutes/Hour	L_{8}	65 dBA	55 dBA
1 Minute/Hour	L_{2}	70 dBA	60 dBA
Any Period of Time	L_{max}	75 dBA	65 dBA

Source: City of Upland Municipal Code, Section 9.40.070.

City of Upland General Plan

The City of Upland establishes exterior and interior noise standards and additional regulations with respect to noise in the Safety Element of the General Plan. The following General Plan policies are applicable to noise impacts associated with the proposed project (Upland 2015c):

» **Policy SAF-1.1 Exterior Noise Standards.** Require noise mitigation for all development where the projected exterior noise levels exceed those shown in Table SAF-1 [reproduced as Table 2, below], to the extent feasible.

» **Policy SAF-1.2 Exterior Incremental Noise Standards.** Require noise mitigation for all development that increases existing noise levels by more than the allowable increment shown in Table SAF-4 [reproduced as Table 3, below], to the extent feasible.

» **Policy SAF-1.3 Interior Noise Standards.** Require new development to include noise mitigation to assure acceptable interior noise levels appropriate to the land use type: 45 dBA Ldn for residential, transient lodgings, hospitals, nursing homes, and other uses where people normally sleep; and 45 dBA Ldn (peak hour) for office buildings and similar uses.

» **Policy SAF-1.4 Location of Noise-Sensitive Land Uses.** Prevent noise-sensitive land uses (schools, medical centers and hospitals, senior centers, and residences) from locating in areas with noise levels that exceed those considered normally acceptable for each land use unless measures can be implemented to reduce noise to acceptable levels.

» **Policy SAF-1.5 Noise Impact Study.** Require a noise impact study to evaluate impacts of projects that may exceed 65 Ldn as part of the design review process.

» **Policy SAF-1.6 Acoustical Study.** Require an acoustical study for all new residential developments that lie within the 65 Ldn noise contour on the Future Noise Contour Map, to ensure indoor levels will not exceed City standards. In addition, the City shall continue to enforce the California Building Code for indoor noise levels.

» **Policy SAF-1.7 Noise Reduction in Site Design.** Require measures that attenuate exterior and/or interior noise levels to acceptable levels to be incorporated into all development projects where current and/or future outdoor noise levels may be unacceptable. Require noise reduction features, the focus of which

shall be on site design techniques, so long as they do not conflict with the goals of the Community Character Element. Techniques include:

a. Designing landscaped building setbacks to serve as a buffer between the noise source and receptor.

b. Placing noise-tolerant land uses such as parking lots, maintenance facilities, and utility areas between the noise source and receptor.

c. Orienting buildings to shield noise-sensitive outdoor spaces from a noise source.

d. Locating bedrooms or balconies on the sides of buildings facing away from noise sources.

e. Utilizing noise barriers, such as landscaped berms, to reduce adverse noise levels in noise-sensitive outdoor activity areas, avoiding sound walls wherever possible.

» **Policy SAF-1.11 Construction Noise.** Require construction projects to adhere to the City's construction hours and incorporate measures to minimize impacts.

» **Policy SAF-1.12 Operational Noise.** Require mixed-use, commercial, and industrial projects to mitigate operational noise impacts to adjoining sensitive uses to meet operational noise thresholds.

» **Policy SAF-1.13 Airport Compatibility.** Prohibit new residential development within the 60 dBA CNEL airport noise contour, and only approve noise-compatible land uses consistent with the ALUCP.

» **Policy SAF-1.14 Noise Level Reduction Near Airport.** Require new structures within any Airport Land Use Compatibility Zone except D or E to incorporate exterior-to-interior noise level reduction design features sufficient to meet the interior noise level criteria specified in the ALUCP.

Table 2 Exterior Noise Compatibility Standards

Land Use	Highest Level of Noise Exposure Regarded as "Normally Acceptable" (Ldn of CNEL)
Residential – Low Density Single-Family, Duplex, Mobile Homes	60 dBA
Residential – Multi-family	65 dBA
Mixed-Use	70 dBA
Transient Lodging – Hotels, Motels	65 dBA
Schools, Libraries, Churches, Hospitals, Nursing Homes	70 dBA
Auditoriums, Concert Halls, Amphitheaters	Mitigation based on site-specific study
Sports Arena, Outdoors Spectator Sports	Mitigation based on site-specific study
Playgrounds, Neighborhood Parks	70 dBA
Golf Courses, Riding Stables, Water Recreation, Cemeteries	75 dBA
Office Buildings – Commercial, Office/Professional	70 dBA
Industrial, Manufacturing, Utilities, Agriculture	75 dBA

Source: City of Upland General Plan Safety Element, Table SAF-1.

Table 3 Exterior Incremental Noise Impact Standards for Noise-Sensitive Use (dBA)

Residences and Buildings Where People Normally Sleep		Institutional Land Uses with Primarily Daytime and Evening Uses	
Existing Ldn	Allowable Noise Increment	Existing Peak Hour Ldn	Allowable Noise Increment
45	8	45	12
50	5	50	9
55	3	55	6
60	2	60	5
65	1	65	3
70	1	70	3
75	0	75	1
80	0	80	0

Source: City of Upland General Plan Safety Element, Table SAF-4.

Cable Airport Land Use Compatibility Plan

The Cable Airport ALUCP was last updated in September 2015. The ALUCP contains compatibility criteria for land use projects within the airport's influence area, including Noise Compatibility Criteria in Section 3.2. This section provides guidance for assessing the compatibility of development projects with the airport with respect to noise. Criterion 3.2.1, Maximum Acceptable Exterior Noise Exposure, of the ALUP states:

» To minimize noise-sensitive development in noisy areas around Cable Airport, new land use development shall be restricted in accordance with the following.

a) New residential development shall be deemed incompatible within the projected CNEL 60 dB contour of Cable Airport depicted on Map 3E, Future Noise Impact, and is one of the factors considered in establishing the Compatibility Zone boundaries in Map 3A. For the purposes of implementing this policy:

1. New residential development either single-family or multi-family should be avoided in Compatibility Zones B3 and C3. To be acceptable, the development must meet these criteria:

- Comply with the infill criteria set forth in Criterion 3.6.2.
- Incorporate sound attenuation as necessary to comply with the interior noise level conditions in Criterion 3.2.2.
- Have a density no greater than allowed in accordance with Criterion 3.3.1.
- Dedicate an avigation easement to the City of Upland in accordance with Criterion 3.6.1.

Criterion 3.2.2, Maximum Acceptable Interior Noise Levels, states:

» To minimize disruption of indoor activities by aircraft noise, new structures within any Compatibility Zone except D or E shall incorporate sound attenuation design features sufficient to meet the interior noise level criteria specified by this criterion.

a) For the following land uses, the aircraft-related interior noise level shall be no greater than CNEL 40 dB.

1. Any habitable room of single- or multi-family residences (including family day care homes with 14 or fewer children).

Thresholds of Significance

CONSTRUCTION NOISE

Because the City does not have construction noise level limits, construction noise was assessed using criteria from the *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018). Table 4 shows the Federal Transit Administration's (FTA) Detailed Analysis Construction Noise Criteria based on the composite noise levels of the two noisiest pieces of equipment per construction phase. This provides reasonable criteria for assessing construction noise impacts based on the potential for adverse community reaction when the noise criteria are exceeded.

Table 4 General Assessment Construction Noise Criteria

Land Use	Daytime 1-Hour Leq (dBA)	Nighttime 1-Hour Leq (dBA)
Residential	80	70
Commercial	85	85
Industrial	90	90

Source: Transit Noise and Vibration Impact Assessment Manual (FTA 2018).
Notes: dBA = A-weighted decibels
FTA = Federal Transit Administration
L_{eq} = equivalent continuous sound level

TRAFFIC NOISE

A project will normally have a significant effect on the environment related to traffic noise if it substantially increases the ambient noise levels for adjoining areas. Most people can detect changes in sound levels of approximately 3 dBA under normal, quiet conditions, and changes of 1 to 3 dBA under quiet, controlled conditions. Changes of less than 1 dBA are usually indiscernible. A change of 5 dBA is readily discernible to most people in an outdoor environment. Noise levels above 65 dBA CNEL are normally unacceptable at sensitive receptor locations such as residences, and noise environments in these areas would be considered degraded. Based on this, a significant impact would occur if the following traffic noise increases occur relative to the existing noise environment:

» 1.5 dBA in ambient noise environments of 65 dBA CNEL and higher
» 3 dBA in ambient noise environments of 60 to 64 dBA CNEL
» 5 dBA in ambient noise environments of less than 60 dBA CNEL

Based on existing traffic noise modeling, a significant traffic noise impact occurs when the thresholds above are exceeded under cumulative conditions (with project) and the contribution of the proposed project to future traffic is calculated to be greater than 3 dBA CNEL for Foothill Boulevard.

OPERATIONAL NOISE

As described in the *Local Noise Regulations* section, the City of Upland has established standards for allowable noise levels and noise level increases. Per Policy SAF-1.2 of the General Plan, mitigation would be required if operational noise generating activities associated with the proposed project (i.e., noise from outdoor common areas and heating, ventilation, and cooling [HVAC] equipment) were to exceed the allowable increment above existing noise levels, as shown in Table SAF-4 (Table 3 in this study). According to the City's 2015 General Plan EIR, existing noise levels in the project vicinity range from 67 to 69 dBA CNEL. Therefore, the proposed project would have a potentially significant impact if operational noise levels were to exceed existing noise levels by 1 dBA at residential uses and 3 dBA at commercial/industrial uses.[3]

VIBRATION

The City of Upland does not have a quantified threshold for temporary construction noise and vibration. Therefore, to determine impact significance, FTA criteria are used. A vibration impact would occur if vibration levels would exceed 0.20 inches/second (in/sec) peak particle velocity (PPV) at the façade of a non-engineered structure (e.g., wood-frame residential). Additionally, the FTA's threshold of 72 vibration velocity (VdB) for frequent events will be used to assess vibration annoyance to residences at the nearby sensitive receptors.

Environmental Impact

Would the project result in:

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less than Significant. The construction and operation of the proposed project would not result in any substantial increase in noise levels that would exceed applicable noise standards. Therefore, no significant noise effects from the implementation of the proposed project would occur.

CONSTRUCTION NOISE

Noise generated by on-site construction equipment is based on the type of equipment used, its location relative to sensitive receptors, and the timing and duration of noise-generating activities. Each phase of construction involves different types of equipment and has distinct noise characteristics. Noise levels from construction activities are typically dominated by the loudest three pieces of equipment. The dominant equipment noise source is typically the engine, although work-piece noise (such as dropping of materials) can also be noticeable.

The expected construction equipment mix was estimated and categorized by construction activity using the Federal Highway Administration Roadway Construction Noise Model (RCNM). Average noise levels from project-related construction activities are calculated by modeling the three loudest pieces of equipment per activity phase. Equipment for grading and site preparation is modeled at spatially averaged distances (i.e., from the acoustical center of the general construction site to the property line of the nearest receptors)

[3] According to Table SAF-4 of the Upland General Plan, the allowable noise level increment for new development near residential uses is 1 dBA in areas where existing ambient noise levels are 65 to 70 dBA Ldn. This increment is 3 dBA for institutional Land Uses with Primarily Daytime and Evening Uses. CNEL and DNL values rarely differ by more than 1 dB and are largely interchangeable.

because the area around the center of construction activities best represents the potential average construction-related noise levels at the various sensitive receptors for mobile equipment. Building construction and architectural coating are measured from the edge of the proposed buildings to the nearest sensitive receptors. Additionally, paving is measured from the area of the nearest paving activities to the nearest sensitive receptors. Construction noise modeling does not account for the numerous intervening structures between the project site and the residential receptors. Distances to sensitive receptors vary depending on construction activity location for each phase relative to adjacent off-site receptors and are shown in Attachment C, *Construction and Vibration Modeling*. Results are summarized in Table 5, *Project-Related Construction Noise Levels (dBA)*, at the nearest receptors. Construction noise levels at a reference distance of 50 feet would range between 74 dBA and 85 dBA L_{eq} throughout the construction period.

Table 5 Project-Related Construction Noise Levels

Construction Phase	Noise Levels in dBA L_{eq}			
	RCNM Reference Noise Level	Residential Receptor to the West	Residential Receptor to the South	Commercial Use to the West
Distance (Feet)	**50**	**870**	**1,040**	**180**
Demolition	85	60	59	74
Site Prep	82	57	56	71
Grading	84	59	58	73
Distance (Feet)	**50**	**670**	**730**	**30**
Building Construction	80	57	57	84
Architectural Coating	74	51	51	78
Landscaping	78	55	55	82
Distance (Feet)	**50**	**675**	**780**	**70**
Paving	80	57	56	77
Maximum dBA Leq	85	60	59	84
Exceeds FTA's 80 or 85 dBA L_{eq} Threshold?2		**No**	**No**	**No**

Source: FHWA's RCNM software. See Attachment B for construction noise inputs and calculations.
dBA Leq = Energy-Average (Leq) Sound Levels.
1 Distances were measured using Google Earth (2025).
2 The FTA 80 dBA threshold applies to the residential uses while the 85 dBA threshold applies to the commercial use (see Table 3).

The nearest sensitive receptors under the proposed project include single-family homes to the west and multifamily receptors to the south of the site boundary. Construction noise levels for the commercial/retail center directly to the west of the project site are also included in Table 4. Construction equipment mix is anticipated to include a mix of concrete saws, dozers, excavators, tractors, loaders, backhoes, excavators, graders, air compressors, pavers and paving equipment, and rollers. Project construction noise levels would range between 51 dBA to 60 dBA L_{eq} at the nearest sensitive receptors throughout the construction activities depending on construction phase. These construction noise levels would not exceed the FTA threshold of 80 dBA L_{eq} at residential uses near the project site. Additionally, construction noise levels at the adjacent commercial center would range from 71 to 84 dBA L_{eq}, and would therefore not exceed the FTA's 85 dBA L_{eq} threshold for commercial uses.

Per the City's General Plan Policy SAF-1.11, all proposed projects are required to adhere to the construction hours established in the City's Noise Ordinance and incorporate measures to reduce impacts. Standard Condition NOI-1, requiring construction activities to adhere to the City's allowable construction hours, is therefore incorporated to ensure construction noise impacts are less than significant. Since construction noise levels would not exceed the applicable thresholds at receptor locations, no additional noise-reduction measures are required.

Standard Condition NOI-1: The construction contractor shall limit construction activities to between the hours of 7:00 a.m. and 6:00 p.m. on weekdays pursuant to Section 9.40.100(M) of the City's Municipal Code (City of Upland 2022). Construction is prohibited outside these hours during weekdays and anytime on weekends.

TRAFFIC NOISE

The proposed project would generate an increase of 679 two-way trips per day with 50 AM peak hour trips and 60 PM peak hour trips compared to existing daily trip. A project will normally have a significant effect on the environment related to traffic noise if it substantially increases the ambient noise levels for adjoining areas. Most people can detect changes in sound levels of approximately 3 dBA under normal, quiet conditions, and changes of 1 to 3 dBA under quiet, controlled conditions. Changes of less than 1 dBA are usually indiscernible. A change of 5 dBA is readily discernible to most people in an outdoor environment. Noise levels above 65 dBA CNEL are normally unacceptable at sensitive receptor locations such as residences, schools, and noise environments in these areas would be considered degraded. Based on this, a significant impact would occur if traffic noise increases by 3 dBA.

Traffic noise increases are calculated using a version of the FHWA RD-77-108 Traffic Noise Prediction Model. The traffic noise prediction model takes into account the following inputs: average daily traffic (ADT) volumes; vehicle mix; speeds; number of lanes; and day, evening, and night traffic splits. Existing traffic noise estimates are based on the City of Upland General Plan's horizon year roadway noise level estimates in Table 5.7-8 of the General Plan EIR. Project trips were provided by TJW Engineering (2025) (see Attachment D, *Trip Generation and VMT Screening Memorandum*). Traffic noise modeling does not account for existing masonry walls at adjacent residential property lines. Table 6, *Project-Related Increases in Traffic Noise, dBA CNEL at 50 Feet*, shows that the addition of proposed project trips would result in an increase of less than 1 dBA over existing conditions. Project traffic noise impacts would be less than significant.

Table 6 Project-Related Increases in Traffic Noise, dBA CNEL at 50 Feet

	SEGMENT		TRAFFIC NOISE INCREASE		
ROADWAY	FROM	TO	EXISTING NO PROJECT	EXISTING WITH PROPOSED PROJECT	INCREASE
Foothill Boulevard	Monte Vista Ave	Central Ave	73	73	<1
	Central Ave	Benson Ave	73	73	<1
	Benson Ave	Mountain Ave	73	73	<1
	Mountain Ave	San Antonio Ave	74	74	<1

Source: TJW Engineering 2025; Upland 2015 (see Attachment C, Traffic Noise Modeling).

OPERATIONAL NOISE

Stationary noise sources associated with the proposed project would include mechanical equipment and recreational activities at outdoor common uses areas. The proposed project would include an open space amenity area at the center of the site but this area would be shielded from surrounding uses by intervening on-site buildings of the proposed townhomes. Therefore, noise levels associated with the outdoor common areas are not anticipated to exceed the City's General Plan standard (Policy SAF-1.2) of an increase of 1 dBA above existing noise levels at residential uses or 3 dBA above existing noise levels at commercial uses. These noise levels would also not exceed the base ambient noise levels of 45 dBA at nighttime or 55 dBA at daytime for residential uses and 75 dBA for commercial uses, complying with the City of Upland's exterior noise standards in Section 9.40 of the Municipal Code.

The proposed project would include ground-mounted HVAC equipment at each townhome. Ground-mounted residential HVAC units would generate noise levels of up to 69 dBA at 3 feet and, due to distance, attenuation would be reduced to 45 dBA at 45 feet (Carrier 2009). The nearest receptors are the commercial uses approximately 30 feet west of the nearest ground-mounted residential HVAC units. HVAC noise levels would be approximately 49 dBA at the nearest commercial receptors to the west. The nearest residential receptors are 670 feet west of the nearest ground-mounted residential HVAC units and would experience HVAC noise levels of 22 dBA, not accounting attenuation of sound level due to intervening buildings. Therefore the project's HVAC noise levels would not exceed Section 9.40.070 noise standards for commercial or residential uses of 75 dBA and 45 dBA for commercial and residential uses, respectively, and would not exceed the City's General Plan standard (Policy SAF-1.2) of an increase of 1 dBA above existing noise levels at residential uses or 3 dBA above existing noise levels at commercial uses. Furthermore, project HVAC noise would not generate an increase of 5 dBA above existing noise levels at adjacent uses per Section 9.40.100. Therefore, project HVAC noise would be less than significant.

b) Generation of excessive groundborne vibration or groundborne noise levels?

No Impact. The construction and operation of the proposed project would not include any substantial long-term vibration sources. Therefore, no significant vibration effects from operations sources would occur.

Potential vibration impacts associated with development projects are usually related to the use of heavy construction equipment during the demolition and grading phases of construction. Construction can generate varying degrees of ground vibration depending on the construction procedures and equipment. Construction equipment generates vibration that spreads through the ground and diminishes with distance from the source. The effect on buildings in the vicinity of the construction site varies depending on soil type, ground strata, and receptor-building construction. The effects from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight structural damage at the highest levels. Vibration from construction activities rarely reaches the levels that can damage structures.

Construction of housing sites would generally include the same types of construction equipment and, therefore, the magnitude of vibration levels generated would be similar. For reference, a peak particle velocity of 0.20 in/sec PPV is used as the limit for nonengineered timber and masonry buildings (which would apply to the off-site surrounding residential structures) (FTA 2018). Table 7, *Vibration Impact Levels for Typical Construction Equipment,* shows typical construction equipment vibration levels and reference vibration levels at a distance of 25 feet.

Table 7 Vibration Impact Levels for Typical Construction Equipment

Equipment	Approximate PPV at 25 feet	Residences to the West (670 feet west)	Commercial Uses to the South (30 feet west and east)
Vibratory Roller	0.21	0.002	0.160
Hoe Ram	0.089	0.001	0.068
Large Bulldozer	0.089	0.001	0.068
Caisson Drilling	0.089	0.001	0.068
Loaded Trucks	0.076	0.001	0.058
Small Bulldozer	0.035	0.000	0.027
Jackhammer	0.003	0.000	0.002
FTA Vibration Threshold	**0.2**	**0.2**	**0.2**
Exceeds Threshold?	No	No	No

Source: FTA 2018.
Notes: PPV: peak particle velocity in inches per second; distances from the project site are approximate.

As shown in Table 7, typical construction equipment, aside from vibratory rollers, produce vibration levels of less than 0.2 in/sec PPV at 25 feet. Assuming construction would occur along the project site boundary, the nearest structure to the proposed construction activities would be commercial structures approximately 30 feet west and east of the project site. The closest residential receptors, also shown in the table, are approximately 670 feet west of the site. Vibration levels attributable to a vibratory roller would attenuate to approximately 0.160 in/sec PPV at a distance of 30 feet. Because the City of Upland does not have a quantified threshold for construction vibration, the FTA maximum acceptable vibration standard of 0.2 in/sec PPV for nonengineered timber and masonry is applied for assessing vibration impacts from project construction-related activities. Construction vibration levels would not exceed the FTA threshold of 0.2 in/sec PPV for nonengineered timber and masonry buildings at adjacent uses near the project site.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Less than Significant Impact. As shown in Attachment A, a 3.14-acre portion of the project site is within the Cable Airport ALUCP Plan's Compatibility Zone C3, and the remaining 1.3 acres of the site are within Compatibility Zone D. Additionally, as shown in Attachment E, a small portion in the northwest of the project site is within the 60 to 65 dBA CNEL contour, and a majority of the site is within the 55 to 60 dBA CNEL contour. According to Table 3A, Compatibility Criteria, of the ALUCP, noise impacts in Compatibility Zones C3 and D are characterized as "moderate."

The proposed project is therefore subject to specific compatibility requirements in the ALUCP specific to these zones. With respect to noise, the ALUCP outlines the requirements the project must meet in Criterion 3.2.1, Maximum Acceptable Exterior Noise Exposure. Per this criterion, development in Compatibility Zone C3 must meet the infill criteria set forth in Criterion 3.6.2, incorporate sound attenuation to meet the interior noise level conditions in Criterion 3.2.2, meet the density criteria of Criterion 3.3.1, and dedicate an avigation easement to the City of Upland in accordance with Criterion 3.6.1. Compliance with these applicable criteria would ensure that the proposed project is compatible with the Cable Airport ALUCP and impacts are less than significant.

Per Criterion 3.2.2, Maximum Acceptable Interior Noise Levels, the proposed project would be required to incorporate sound attenuation design features that reduce noise levels from aircraft-related noise to no greater than 40 dBA. Therefore, incorporation of sound attenuation design features that would reduce interior noise levels to 40 dBA or below would ensure that impacts associated with airport-related noise levels would be less than significant.

Non-CEQA Issue: Land Use and Noise Compliance with General Plan Noise Element

The project's outdoor activity area is 300 feet from Foothill Boulevard and would experience traffic noise levels of 62 dBA CNEL, without accounting for shielding that would be provided by on-site buildings. Conservatively assuming a 5 dBA reduction due to the three rows of proposed on-site buildings between Foothill Boulevard and the proposed common outdoor activity area, traffic noise levels would be 57 dBA CNEL.

The nearest proposed on-site residential buildings would be approximately 70 feet from the Foothill Boulevard centerline. Based on the modeled traffic noise levels at 50 feet shown in Table 6, Foothill Boulevard traffic noise levels would be 71 dBA CNEL at the first row of proposed residential facades facing Foothill Boulevard. The facades of first row of residential uses adjacent to Foothill Boulevard would be required to provide a 26 dBA exterior to interior traffic noise level reduction.

Bibliography

Federal Highway Administration (FHWA). 2006. Roadway Construction Noise Model User's Manual.

———. 2023. Traffic Noise Model (TNM).

Federal Transit Administration (FTA). 2018, September. Transit Noise and Vibration Impact Assessment Manual. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf.

TJW Engineering, 2025, March 26. Upland 4.5 Trip Generation and VMT Screening, City of Upland, California. (Attachment D).

Upland, City of. 2015a, March 9. Upland General Plan Update EIR (State Clearinghouse No. 2012041006). https://ceqanet.opr.ca.gov/2012041006/2.

———. 2015b, November 9. Cable Airport Land Use Compatibility Plan. https://www.uplandca.gov/uploads/ftp/city_departments/development_services/planning/cable_airport_land_use_comp_plan/pdfs/CCB.Front%20Body.2015-11-09.pdf.

———. 2015c, September. City of Upland General Plan, Safety Element. https://www.uplandca.gov/uploads/ftp/city_departments/development_services/planning/general_plan_map/pdfs/09_Safety%20Element.pdf.

———. 2019, December 19. Bridge Point Upland Mitigated Negative Declaration (State Clearinghouse Number: 2019129066). https://ceqanet.opr.ca.gov/2019129066/2.

Attachment A – Project Site Plan

PP
PP
PP
10' DEDICATION
HALF STREET
60'
SETBACK
20'
5' WALK
TO C/L
17.5'
STACKING
40'
26'
MAIN ENTRY
5' WALK
STACKING
30'
24'
EVA ONLY
5' WALK
R19'
DEEP FTG
10'
17'
8'
48'
C
OPEN SPACE WITH
UNDERGROUND
INFILTRATION SYSTEM
SEWER LIFT
STATION
C3 ZONE
D ZONE
PORTION OF THE SITE IN
C3 ZONE = 3.141 ACRES
47 UNITS PLOTTED
DENSITY=14.96 UNIT/AC
PORTION OF THE SITE IN D
ZONE = 1.281 ACRES
25 UNITS PLOTTED
DENSITY=19.51 UNIT/AC
22'
20'
15'
GRAPHIC SCALE 1"= 20'
0 20 40 60 80

FORMA ENGINEERING INC.
400 San Fernando Mission Boulevard, Suite 200
San Fernando, California 91340
Phone: (818) 832-1710 • Fax: (818) 832-1740

PREPARED UNDER THE SUPERVISION OF:

ARET BINATLI, P.E. R.C.E. 64448 DATE

Drawing Title:
UPLAND 4.5
SITE STUDY #8
72 UNITS
25 PARKING STALLS

Prepared for:
CENTURY COMMUNITIES

Work Order	24218
Date:	3/26/2025
Scale:	1"= 20'
Designed:	AB
Drawn:	AB
Checked:	--
Sheet	1 of 1 Sheets

Drawing Name: L:\24218\Eng\Mo\m24218h1.dwg
Last Opened: Mar 26, 2025 - 11:59am by aret

Attachment B – Construction Noise and Vibration Modeling

CECO-01 Buffalo Grove Townhomes - Construction Noise Modeling
Attenuation Calculations

			Levels in dBA Leq	
Phase	**RCNM Reference Noise Level**	**Residential Receptor to the West**	**Residential Receptor to the South**	**Commerial Use to the West**
Distance in feet	*50*	*870*	*1040*	*180*
Demolition	85	60	59	74
Site Prep	82	57	56	71
Grading	84	59	58	73
Distance in feet	*50*	*670*	*730*	*30*
Building Construction	80	57	57	84
Architectural Coating	74	51	51	78
Landscaping	78	55	55	82
Distance in feet	*50*	*675*	*780*	*70*
Paving	80	57	56	77

Attenuation calculated through Inverse Square Law: Lp(R2) = Lp(R1) - 20Log(R2/R1)

CECO-01 Buffalo Grove Townhomes - Vibration Damage Attenuation Calculations

	Levels, PPV (in/sec)			
	Vibration Reference	**Residential Receptor to the**	**Residential Receptor to the**	**Commerial Use to the West**
Distance in feet	**Level at *25 feet***	*670*	*730*	*30*
Vibratory Roller	0.21	0.002	0.001	0.160
Hoe Ram	0.089	0.001	0.001	0.068
Large Bulldozer	0.089	0.001	0.001	0.068
Caisson Drilling	0.089	0.001	0.001	0.068
Loaded Trucks	0.076	0.001	0.000	0.058
Small Bulldozer	0.035	0.000	0.000	0.027
Jackhammer	0.003	0.000	0.000	0.002

Source: FTA 2018

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 05/16/2025
Case Description: CECO-01_Landscaping

**** Receptor #1 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Reference at 50 feet	Residential	60.0	55.0	50.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40	80.7	50.0	0.0	

Results

Equipment	Calculated (dBA) Lmax	Calculated (dBA) Leq	Noise Limits (dBA) Day Lmax	Noise Limits (dBA) Day Leq	Noise Limits (dBA) Evening Lmax	Noise Limits (dBA) Evening Leq	Noise Limits (dBA) Night Lmax	Noise Limits (dBA) Night Leq	Noise Limit Exceedance (dBA) Day Lmax	Noise Limit Exceedance (dBA) Day Leq	Noise Limit Exceedance (dBA) Evening Lmax	Noise Limit Exceedance (dBA) Evening Leq	Noise Limit Exceedance (dBA) Night Lmax	Noise Limit Exceedance (dBA) Night Leq
Excavator	80.7	76.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	80.7	76.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 05/16/2025
Case Description: CECO-01_Asphalt Paving

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Reference at 50 feet	Residential	60.0	55.0	50.0

Equipment

Description	Impact Device	Spec Usage (%)	Actual Lmax (dBA)	Receptor Lmax (dBA)	Estimated Distance (feet)	Shielding (dBA)
Paver	No	50	77.2	50.0	0.0	
Concrete Mixer Truck	No	40	78.8	50.0	0.0	
Concrete Mixer Truck	No	40	78.8	50.0	0.0	

Results

	Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night		Noise Limit Exceedance (dBA) Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Paver	77.2	74.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	78.8	74.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	78.8	74.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	78.8	79.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 05/16/2025
Case Description: Site Preparation
**** Receptor #1 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Refernce at 50 feet	Residential	60.0	55.0	50.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	50.0	0.0
Dozer	No	40		81.7	50.0	0.0
Backhoe	No	40		77.6	50.0	0.0

Results

Equipment	Calculated (dBA) Lmax	Calculated (dBA) Leq	Noise Limits (dBA) Day Lmax	Noise Limits (dBA) Day Leq	Noise Limits (dBA) Evening Lmax	Noise Limits (dBA) Evening Leq	Noise Limits (dBA) Night Lmax	Noise Limits (dBA) Night Leq	Noise Limit Exceedance (dBA) Day Lmax	Noise Limit Exceedance (dBA) Day Leq	Noise Limit Exceedance (dBA) Evening Lmax	Noise Limit Exceedance (dBA) Evening Leq	Noise Limit Exceedance (dBA) Night Lmax	Noise Limit Exceedance (dBA) Night Leq
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	81.7	81.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 05/16/2025
Case Description: Grading
**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Reference at 50 feet	Residential	60.0	55.0	50.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85.0		50.0	0.0
Dozer	No	40		81.7	50.0	0.0
Excavator	No	40		80.7	50.0	0.0

Results

	Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
	Calculated (dBA)		Day		Evening		Night		Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Grader	85.0	81.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	80.7	76.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	85.0	83.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 05/16/2025
Case Description: CECO-01_Demolition

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Reference at 50 feet	Residential	60.0	55.0	50.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	50.0	0.0
Dozer	No	40		81.7	50.0	0.0
Concrete Saw	No	20		89.6	50.0	0.0

Results

Equipment	Calculated (dBA) Lmax	Leq	Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Noise Limit Exceedance (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	89.6	82.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	89.6	84.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 05/16/2025
Case Description: CECO-01_Building Construction

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Reference at 50 feet	Residential	60.0	55.0	50.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40	77.6	50.0		0.0
Backhoe	No	40	77.6	50.0		0.0
Generator	No	50	80.6	50.0		0.0

Results

Equipment	Calculated (dBA) Lmax	Leq	Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Noise Limit Exceedance (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	80.6	77.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	80.6	80.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 05/16/2025
Case Description: Architectural Coating
**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Reference at 50 feet	Residential	60.0	55.0	50.0

Equipment

Description	Impact Device	Spec Usage (%)	Actual Lmax (dBA)	Receptor Lmax (dBA)	Estimated Distance (feet)	Shielding (dBA)
Compressor (air)	No	40	77.7	50.0		0.0

Results

Equipment	Calculated (dBA) Lmax	Leq	Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Noise Limit Exceedance (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Compressor (air)	77.7	73.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	77.7	73.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Attachment C –Traffic Noise Modeling

Traffic Noise Calculator: FHWA 77-108 — **Buffalo Grove Townhome Project Existing Traffic Noise**

	Output						Inputs													Auto Inputs	
	dBA at 50 feet			Distance to CNEL Contour																	
ID	$L_{eq\text{-}24hr}$	L_{dn}	CNEL	70 dBA	65 dBA	60 dBA	Roadway	Segment From - To		ADT	Posted Speed Limit	Grade	% Autos	% Med Trucks	% Heavy Trucks	% Daytime	% Evening	% Night	Number of Lanes	Site Condition	Distance to Reciever	Ground Absorption	Lane Distance
1	69	73	73	83	179	385	Foothill Blvd	Monte Vista Ave	Central Ave	26,600	45	0.0%	97%	1.40%	1.30%	75.0%	10.0%	15.0%	4	Soft	50	0.5	44
2	69	73	73	84	180	388	Foothill Blvd	Central Ave	Benson Ave	27,000	45	0.0%	97%	1.40%	1.30%	75.0%	10.0%	15.0%	4	Soft	50	0.5	44
3	69	73	73	84	180	388	Foothill Blvd	Benson Ave	Mountain Ave	27,000	45	0.0%	97%	1.40%	1.30%	75.0%	10.0%	15.0%	4	Soft	50	0.5	44
4	70	73	74	90	193	417	Foothill Blvd	Mountain Ave	San Antonio Ave	30,000	45	0.0%	97%	1.40%	1.30%	75.0%	10.0%	15.0%	4	Soft	50	0.5	44

Traffic Noise Calculator: FHWA 77-108 — **Buffalo Grove Townhome Project Existing Traffic Noise**

	Output						Inputs													Auto Inputs	
	dBA at 50 feet			Distance to CNEL Contour																	
ID	$L_{eq\text{-}24hr}$	L_{dn}	CNEL	70 dBA	65 dBA	60 dBA	Roadway	Segment From - To		ADT	Posted Speed Limit	Grade	% Autos	% Med Trucks	% Heavy Trucks	% Daytime	% Evening	% Night	Number of Lanes	Site Condition	Distance to Reciever	Ground Absorption	Lane Distance
1	69	73	73	84	182	391	Foothill Blvd	Monte Vista Ave	Central Ave	27,279	45	0.0%	97.3%	1.4%	1.3%	75.0%	10.0%	15.0%	4	Soft	50	0.5	44
2	69	73	73	85	183	395	Foothill Blvd	Central Ave	Benson Ave	27,679	45	0.0%	97.3%	1.4%	1.3%	75.0%	10.0%	15.0%	4	Soft	50	0.5	44
3	69	73	73	85	183	395	Foothill Blvd	Benson Ave	Mountain Ave	27,679	45	0.0%	97.3%	1.4%	1.3%	75.0%	10.0%	15.0%	4	Soft	50	0.5	44
4	70	74	74	91	196	423	Foothill Blvd	Mountain Ave	San Antonio Ave	30,679	45	0.0%	97.3%	1.4%	1.3%	75.0%	10.0%	15.0%	4	Soft	50	0.5	44

Traffic Noise Calculator: FHWA 77-108 **Buffalo Grove Townhome Project Existing Traffic Noise**

	Output						Inputs														Auto Inputs	
	dBA at 50 feet			Distance to CNEL Contour																		
ID	$L_{eq\text{-}24hr}$	L_{dn}	CNEL	70 dBA	65 dBA	60 dBA	Roadway	Segment From - To		ADT	Posted Speed Limit	Grade	% Autos	% Med Trucks	% Heavy Trucks	% Daytime	% Evening	% Night	Number of Lanes	Site Condition	Distance to Reciever	Ground Absorption	Lane Distance
1	58	61	62	85	183	395	Foothill Blvd	Central Ave	Benson Ave	27,679	45	0.0%	97.3%	1.4%	1.3%	75.0%	10.0%	15.0%	4	Soft	300	0.5	44
2	67	71	71	85	183	395	Foothill Blvd	Central Ave	Benson Ave	27,679	45	0.0%	97.3%	1.4%	1.3%	75.0%	10.0%	15.0%	4	Soft	70	0.5	44

Attachment D – Trip Generation and VMT Screening Memorandum

March 26, 2025

TJW ENGINEERING, INC.
TRAFFIC ENGINEERING &
TRANSPORTATION PLANNING
CONSULTANTS

Justin Brewer
CENTURY COMMUNITIES
4695 MacArthur Court, Suite 300
Newport Beach, CA 92660

SUBJECT: Upland 4.5 Trip Generation and VMT Screening, City of Upland, California

Dear Mr. Brewer,

TJW Engineering, Inc. (TJW) is pleased to submit this Trip Generation Analysis and Vehicle Miles Traveled (VMT) Screening for the proposed project located at 1814 West Foothill Boulevard in the City of Upland, California. The proposed project is for the construction of 72 single-family detached residential dwelling units. The purpose of this memorandum is to summarize the project Trip Generation Analysis and VMT Screening.

Proposed Project

The site for the proposed project is located at 1814 West Foothill Boulevard in the City of Upland, California. The proposed project is for the construction of 72 single-family detached residential dwelling units. A site plan is attached for reference.

Site access will be provided via one (1) gated full access driveway on West Foothill Boulevard (SR-66). A second driveway also on West Foothill Boulevard will be for emergency vehicles only.

Trip Generation Analysis

The trip generation analysis for the proposed project was developed based on the *City of Upland Traffic Impact Analysis Guidelines (City Guidelines)* (July 2020). The *City Guidelines* indicate that a level of service (LOS) analysis is required when either AM or PM peak hour trip generation from the proposed project is expected to exceed 100 or more vehicle trips or when the project will add 51 AM or PM peak hour trips to any intersection.

Per the *City Guidelines*, trip generation rates are to be obtained from the *Institute of Transportation Engineers Trip Generation Manual (ITE Manual)* (11th Edition, 2021). Trip generation volumes are based on the land uses of the proposed new buildings. The proposed project fits the ITE Manual description of Single-Family Detached Residential. As shown in **Table 1** below, based on the ITE Manual rates for Single-Family Detached Residential, the proposed project is expected to generate 50 AM peak hour trips, 68 PM peak hour trips, and a total of 679 daily trips.

Table 1
Project Trip Generation

Proposed Land Use[1]	ITE Code	Qty	Unit[2]	Daily		AM Peak Hour					PM Peak Hour				
				Rate	Volume	Rate	In:Out Split	Volume			Rate	In:Out Split	Volume		
								In	Out	Total			In	Out	Total
Single-Family Detached Housing	210	72	DU	9.43	679	0.7	26:74	13	37	50	0.94	63:37	43	25	68

1: Trip generation rates are from the ITE Trip Generation Manual (11th Edition, 2021).
2: DU = Dwelling Units.

The proposed project does not meet the *City Guidelines* criteria requiring an LOS analysis as:

1) The project will generate less than 100 vehicle trips during either AM or PM peak hour.
2) There are less than 51 trips during the AM peak hour and, therefore, no more than 51 trips added to any intersection.
3) Project generated trips are expected to be distributed relatively evenly between the easterly and westerly legs of West Foothill Boulevard on either side of the project driveway. Thus, the PM peak hour trips in either east or west direction will be less than 51 trips each and, therefore, not contribute more than 51 trips to any intersection.

Vehicle Miles Traveled (VMT) Screening

Senate Bill (SB) 743 was adopted in 2013 requiring the Governor's Office of Planning and Research (OPR) to identify new metrics for identifying and mitigating transportation impacts within the California Environmental Quality Act (CEQA). For land use projects, OPR has identified Vehicle Miles Traveled (VMT) as the new metric for transportation analysis under CEQA. The regulatory changes to the CEQA guidelines that implement SB 743 were approved on December 28th, 2018, with an implementation date of July 1st, 2020, as the new metric.

The *City Guidelines* provide screening criteria and requirements for VMT assessment of land use projects. Step 1: Transit Priority Area (TPA) Screening indicates that projects located within a TPA may be presumed to have a less than significant impact on VMT. Step 2: Low VMT Area Screening indicates that residential projects located within a low VMT-generating area may be presumed to have a less than significant impact. The San Bernardino County Transportation Authority (SBCTA) VMT Screening Tool was utilized to determine if the proposed project meets the screening criteria. The Screening Tool found that the proposed project is located within a TPA and within a low-VMT area. The Screening Tool results are attached for reference.

Summary

This memorandum provides an overview of the trip generation analysis for the proposed project. Based on the *City Guidelines*, the proposed project does not meet the threshold requiring an LOS analysis as it will generate less than 100 vehicle trips during either AM or PM peak hour and distribute less than 51 vehicle

trips at any intersection. In addition, the project is located within a low-VMT area and a TPA and may be presumed to have a less than significant on VMT.

Please contact us at (949) 878-3509 if you have any questions regarding this analysis.

Sincerely,

Thomas Wheat, PE, TE
President
Registered Civil Engineer *#69467*
Registered Traffic Engineer *#2565*

David Chew, PTP
Transportation Planner

Travis Yokota
Assistant Transportation Planner

PP

PP

PP

10' DEDICATION

20' SETBACK

25' MAIN ENTRY

24' EVA ONLY

R19'

26'

10'

8'

48'

17'

DEEP FTG

OPEN SPACE WITH UNDERGROUND INFILTRATION SYSTEM

NO PARKING

SEWER LIFT STATION

PORTION OF THE SITE IN C3 ZONE = 3.141 ACRES
47 UNITS PLOTTED
DENSITY=14.96 UNIT/AC

PORTION OF THE SITE IN D ZONE = 1.281 ACRES
25 UNITS PLOTTED
DENSITY=19.51 UNIT/AC

C3 ZONE
D ZONE

GRAPHIC SCALE 1"= 20'
0 20 40 60 80

FORMA ENGINEERING INC.
400 San Fernando Mission Boulevard, Suite 200
San Fernando, California 91340
Phone: (818) 832-1710 ▪ Fax: (818) 832-1740

PREPARED UNDER THE SUPERVISION OF:

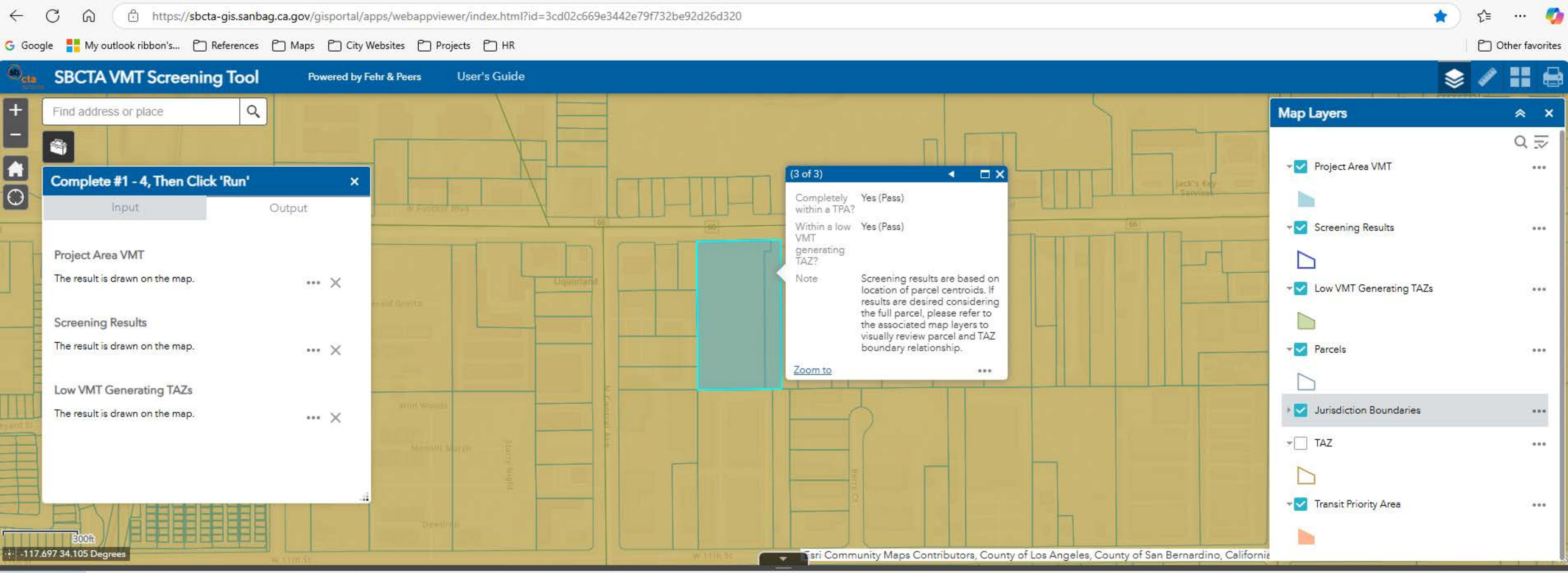
ARET BINATLI, P.E. R.C.E. 64448 DATE

Drawing Title:
UPLAND 4.5
SITE STUDY #8
72 UNITS
25 PARKING STALLS

Prepared for:
CENTURY COMMUNITIES

Work Order	24218
Date:	3/25/2025
Scale:	1"= 20'
Designed:	AB
Drawn:	AB
Checked:	--
Sheet	1 of 1 Sheets

Drawing Name: L:\24218\Eng\Ma\m24218h1.dwg
Last Opened: Mar 25, 2025 - 12:20pm by aret



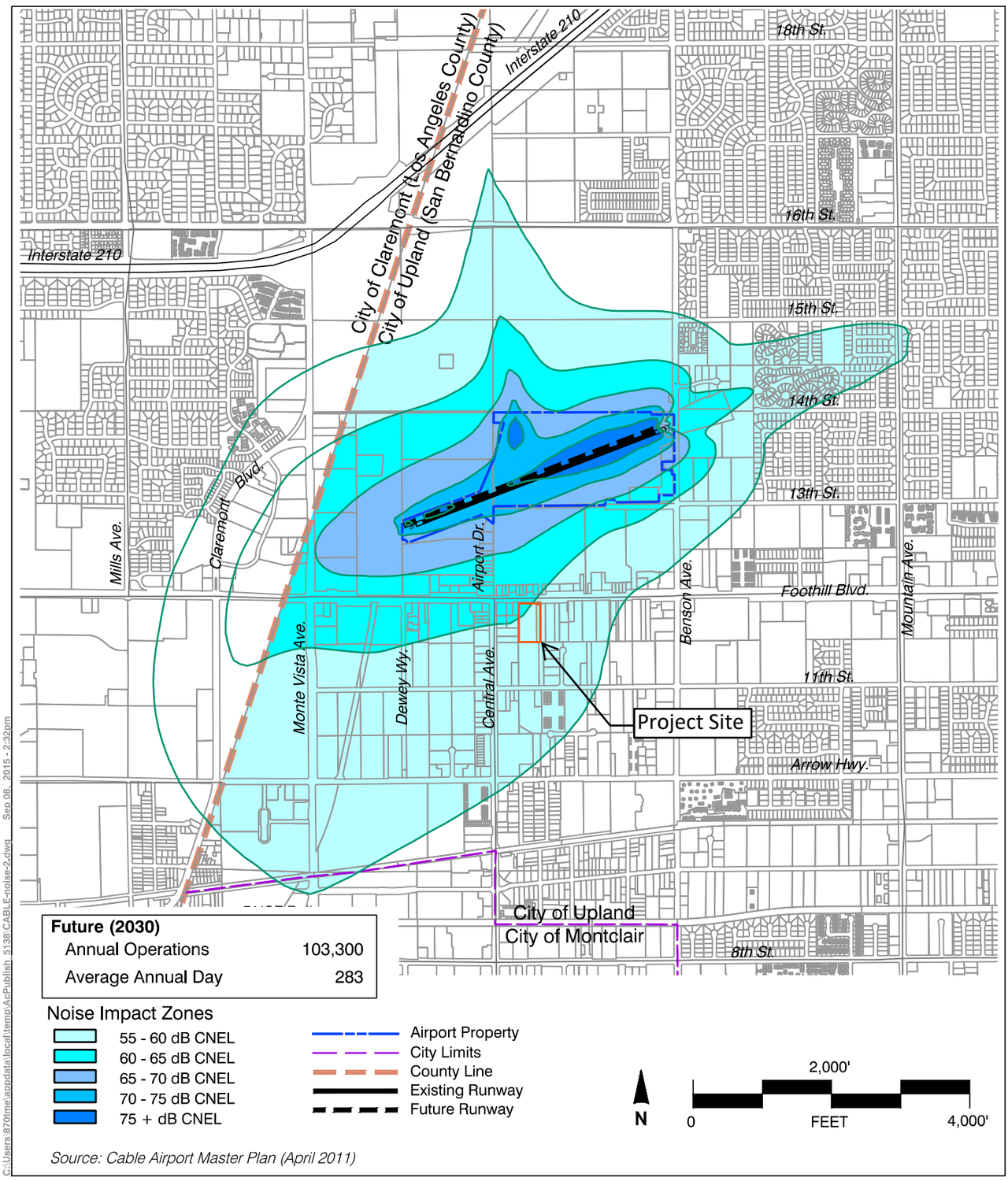
Project Area VMT | Screening Results | Low VMT Generating TAZs | Parcels | San Bernardino County Line | Jurisdiction Boundaries | Transit Priority Area

Options | Filter by map extent | Zoom to | Clear selection | Refresh

OBJECTID	Assessor Parcel Number (APN)	Traffic Analysis Zone (TAZ)	Community Region	Inside a Transit Priority Area (TPA)	TAZ VMT	Jurisdiction VMT	% Difference	VMT Metric	Threshold	Community Regions have different thresholds (1=Yes, 0=No)	Note	Shape_Length	Shape_Area
1	100706123	53,622,201.00	Upland	Yes	9.40	13.20	-29.16%	PA VMT Per Population	11.20	0	Screening results are based on location of parcel centroids. If results are desired considering the full parcel, please refer to the associated map layers to visually review parcel and TAZ boundary relationship.	480.13	5,008.16
2	100706108	53,622,201.00	Upland	Yes	9.40	13.20	-29.16%	PA VMT Per Population	11.20	0	Screening results are based on location of parcel centroids. If results are desired considering the full parcel, please refer to the associated map layers to visually review parcel and TAZ boundary relationship.	646.18	21,252.96

2 features 0 selected

Attachment E – Cable Airport ALUCP Noise Contours



Map 3E

Future Noise Impact Area

Cable Airport