



MEMORANDUM

TO: Jeff Helgeson, Dogtopia – McKinney
CC: Kathy Halter & Aaron Mueller, Dogtopia
FROM: Erik Miller-Klein, A³ Acoustics
DATE: October 16, 2019
PROJECT: Dogtopia – McKinney, Texas
SUBJECT: Predicted Environmental Noise Impact for Outdoor Run

This memorandum is a summary of our predicted noise impact based on the proposed design for the outdoor runs proposed for the Dogtopia at evaluation and analysis of the proposed Dogtopia outdoor play areas at 8416 Stacy Road in McKinney, Texas.

Applicable McKinney Ordinances

Section 146-134: Performance Standards

All uses in all districts shall conform in operation, location, and construction to the performance standards hereinafter specified.

(1) *Noise.*

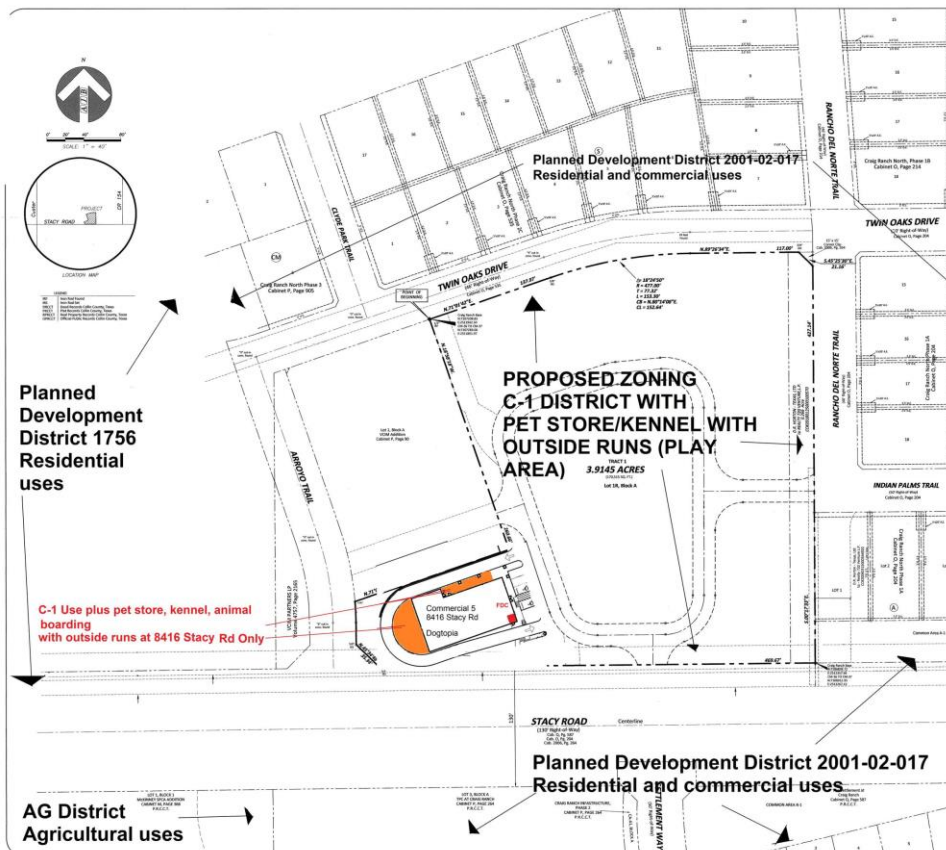
- a. At no point at the bounding property line of a residential use shall the sound pressure level of any operation or activity exceed 65 dB(A) for daytime hours and 58 dB(A) at nighttime. At no point at the bounding property line of a non-residential use shall the sound pressure level of any operation or activity exceed 70 dB(A) for daytime hours and 60 dB(A) at nighttime.
- b. *Daytime hours.* Daytime shall refer to the hours between 6:00 a.m. and 9:00 p.m. on any given day.
- c. *Boundary property line.* The bounding property line shall be the nearest property line of the property on which the noise is being generated.
- d. *Noise measurement.* Measurement of noise shall be made with a sound level meter meeting the standards prescribed by the American National Standards Institute.

Section 70-120: Specific Noise Disturbance Prohibited

- (a) No person shall allow, make or cause to be made any unreasonably loud or disturbing noise that is offensive to the sensibilities of a reasonable, prudent adult person, renders the enjoyment of life or property uncomfortable, interferes with public peace and comfort, or causes a noise disturbance as defined.
- (b) The following includes, but is not limited to, activities which can create unreasonably loud or disturbing noises in violation of this article, including activities which are noise disturbances per se, unless an exemption exists or a permit of variance was first obtained as provided in [section 70-122](#), or the noise emitted is consistent with or within the parameters of [section 146-134](#).

- (1) *Animals.* Owning, keeping, possessing, or harboring any animal or fowl which by frequent or habitual noise making, unreasonably disturbs or interferes with the peace, comfort or repose of citizens, or causes a noise disturbance as defined herein. The provision of this article shall apply to all private or public facilities including any animal shelter or commercial kennel, which holds or treats animals.

Site Conditions



The proposed Dogtopia outdoor runs would be on the west and north sides of the building. The estimated average ambient noise level at the outdoor fence of the Daffodils Montessori Preschool from traffic noise on Stacy Road likely ranges from 52 – 57 dBA and at the nearest single family residences to the north likely ranges from 48 – 53 dBA; based on McKinney traffic counts of 20,654 average daily trips at 40 mph. These values are estimated using the HUD Noise Calculator predicts the traffic noise impact to these residences to be a day-night average noise level (DNL) of 60.6 dBA based on the 2018 traffic count¹ for Stacy Road.

¹ <https://mck.maps.arcgis.com/apps/webappviewer/index.html?id=4328e33596be4fc4b8317d402745d7f7>

Noise Impact Analysis

In our experience to effectively evaluate the potential noise impact with respect to disturbances or nuisance from dog barks or similar transient sound sources (noises that change in loudness over time) it is best to compare the maximum instantaneous noise level with the average background sound level. Our analysis evaluated the predicted impact from each outdoor run area to the Daffodils Montessori Preschool outdoor play area and the nearest residential properties to the north. These predicted sound levels are based on sound measurements completed in July 2019 of an indoor play area at Dogtopia of Bloomington, Minnesota, which was the agitated barking of about 15 dogs barking concurrently creating a sound level of 102 dBA Lmax (fast response) and the average noise from those same animals over 2 minutes time was 95 dBA Leq.

The outdoor dog play area is proposed to have an 8'-0" tall Weatherable vinyl fencing, which has a weight of 100 lbs per 8' x 8' panel (1.5-lbs per sq ft).

The predicted Lmax and Leq noise impact compared to the estimated average daytime levels and noise ordinance are noted below. This includes effects due to distance, the proposed fence, and building effects.

Dogtopia Outdoor Run Area	Receiver Location	Predicted Lmax Impact	Estimated Daytime Hourly Average, Leq	Predicted Average (Leq) Impact	McKinney Daytime Noise Limit
West Play Area (fenced)	Daffodils Montessori Preschool	54 dBA	52 – 57 dBA	50 dBA	70 dBA
West Play Area (fenced)	Single Family Residence	47 dBA	48 – 53 dBA	43 dBA	65 dBA
North Play Area (fenced under overhang)	Daffodils Montessori Preschool	60 dBA	52 – 57 dBA	56 dBA	70 dBA
North Play Area (fenced under overhang)	Single Family Residence	57 dBA	48 – 53 dBA	49 dBA	65 dBA

Based on the proposed design conditions the west outdoor run area is not expected to be a noise disturbance to any residential neighbors or noticeable above normal daytime traffic for the Daffodils Montessori Preschool outdoor play area or façade of the building. The north outdoor run area is expected to satisfy the daytime noise code limit, but the occasional bark will be perceptible in the Montessori outdoor play area and potential on the front porch of a couple residences.

To further reduce the noise impact from the north covered play area, add 1" thick sound absorptive finishes to the underside of the finished ceiling area of the covered area, and where possible extend the northern section of the barrier to within 1'-0" of the covered area. The neighbors are not expected to hear more than a few barks per 15 minute outdoor play interval during normal traffic conditions. We expect that any identified dog barks will likely be associated with dogs in the neighborhood community and not from Dogtopia, and that motorcycle, diesel trucks, and car stereos from pass-by vehicles to be more audible and disruptive than Dogtopia's outdoor play area/run.

The proposed plan will ensure the noise impact from the Dogtopia to the neighborhood will not be a nuisance and will be less than existing traffic noise. Even the loudest dog barks are not expected to be audible at anytime within nearby residences with their windows closed.

Please contact us with any questions.

Sincerely,
A³ Acoustics, LLP



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