ASHFORD WOODS, LLC

Gwen Wright
Director, Planning Department
Montgomery County Planning Department
2425 Reedie Drive
13th & 14th Floors
Wheaton, MD 20902

Re: Ashford Woods Preliminary Plan No. 1202000110 (the "Property) - Request for Waiver of Exterior Guidelines for Residential Areas.

Dear Ms. Wright:

Ashford Woods, LLC., Applicant for the Preliminary Plan ("Applicant"), respectfully requests a waiver pursuant to Section 2.2.2 of the 1983 Staff Guidelines for the Consideration of Transportation Noise Impacts in Land Use Planning and Development ("Guidelines") to allow the use of 70 dBA in the rear yards of the townhouse units based on the use of the Ldn noise level standard. To achieve 70 dBA Ldn, Applicant is proposing to mitigate exterior noise levels by constructing wooden, board on board fencing that is 7 to 9 feet in height at the rears of the effected units (see Exhibit 4).

Although the Guidelines map has this area of the Property in the 60 dBA Ldn guideline area based on the then relatively low volumes on I-270 and the suburban nature of development in Clarksburg in 1983, the Guidelines caution that: "This map should be used for general reference purposes only" (emphasis in the original). Many changes have taken place since the Guidelines were developed in 1983. Specifically, the 2014 Clarksburg Master Plan Amendment recognizes the Property as an important housing resource for Clarksburg and the County. The Master Plan Amendment further recommends that to achieve this more intense housing while protecting the environment, environmental overlay zones should apply. These overlay zones have been enacted and applied to the Property. The applicable development standards of the overlay zones require 80% open space and permit a development envelope of only 20% with impervious caps. These zoning proscriptions and Master Plan Amendment recommendations produce a design which results in a more urban form of housing development within the limited development envelope with immediate access to extensive rural open space areas. To achieve this balance, Applicant needs the requested flexibility in the application of the Guidelines to the rear of units adjacent to the I-270, a designated Interstate Freeway.

The Applicant has studied various mitigation techniques, however, the topography of the Property, natural elements, and its proximity to I-270, would result in fences up to 24 feet and 14 feet in height in order to meet the 60 dBA Ldn and 65 dbA Ldn guidelines, respectively (see Exhibits 2 & 3). Also, the fencing would need to be extended in several areas, blocking viewsheds, excessively walling the lots off in an unattractive manner, and increasing economic impacts. The Applicant has done everything that is feasible to attenuate for noise impacts to the property, but the stream buffers, topographical elements, and size of I-270 constrain where the proposed development can be most effectively oriented on the

property. Other attenuation methods were evaluated, but the topography of the property sitting higher than then noise makes it difficult to do effective noise mitigation, such as berming, or locating a noise barrier closer to the I-270, which would greatly increase the economic impacts.

The Applicant acknowledges that this waiver request does not affect the requirement that interior noise levels for residential structures must be attenuated to 45 dBa Ldn or less.

In summary, in accordance with Sec. 2.2.2 of the Guidelines, the Applicant believes that exterior noise attenuation to the extent recommended in the Guidelines (65dBA Ldn) is not feasible due to (i) changes in the zoning regulations and planning recommendations applicable to the Property that create site-related constraints regarding size, shape and topography within the development envelope, (ii) aesthetics, and (iii) the excessive cost of constructing the very high walls referenced above. Accordingly, we request that the staff recommend the requested waiver for approval by the Planning Board.

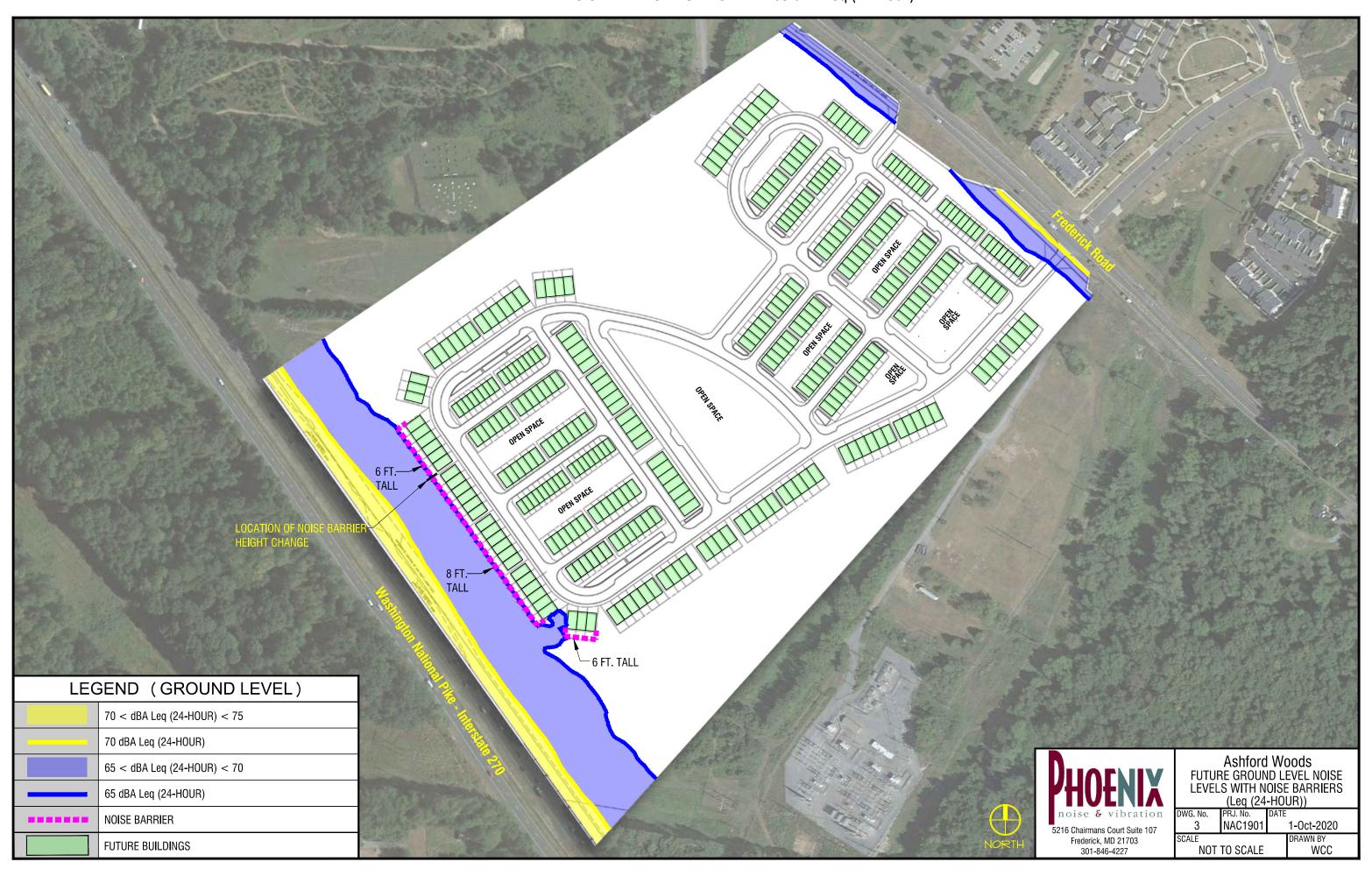
Thank you for your consideration of our waiver request.

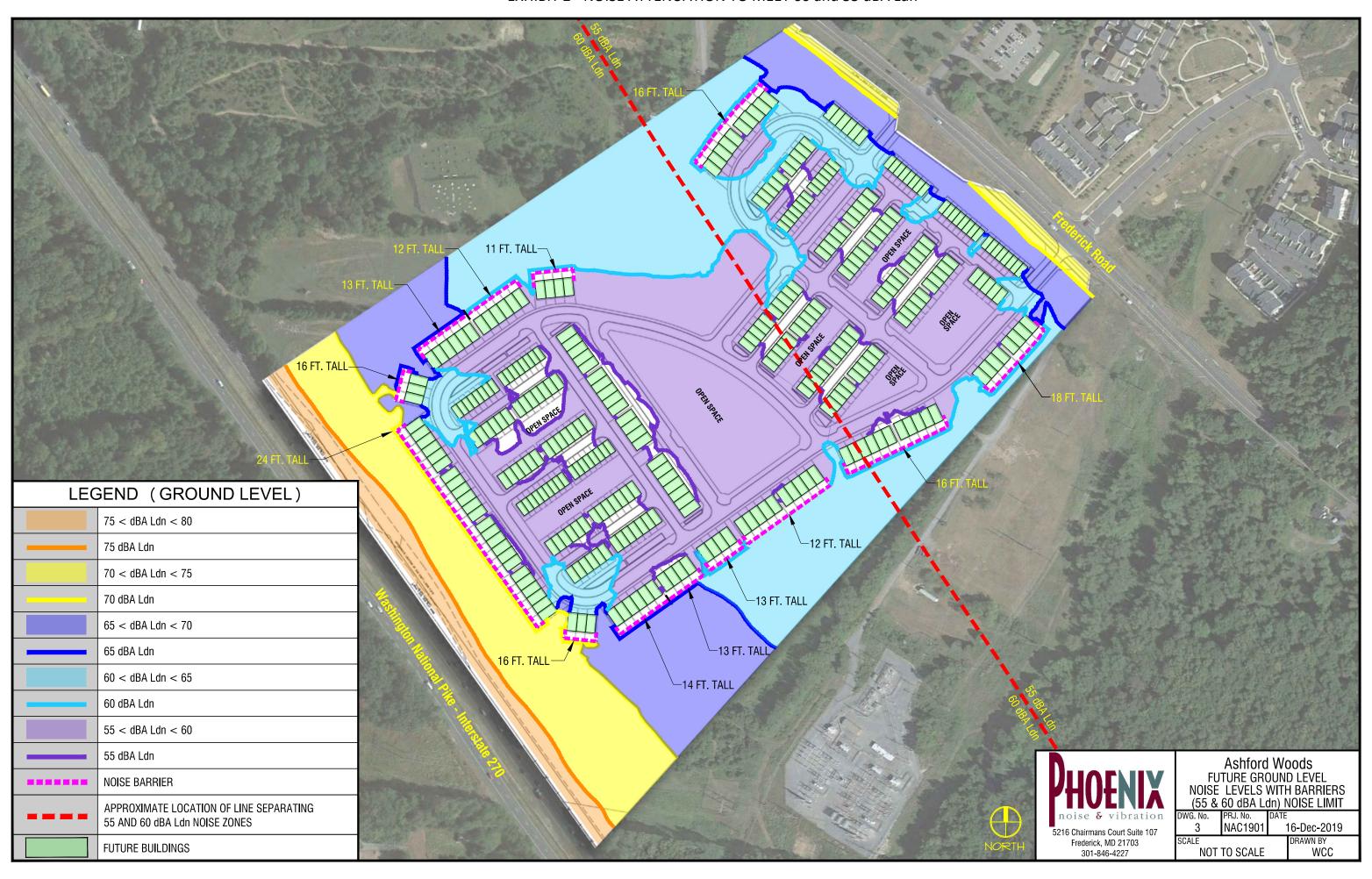
Very truly yours,

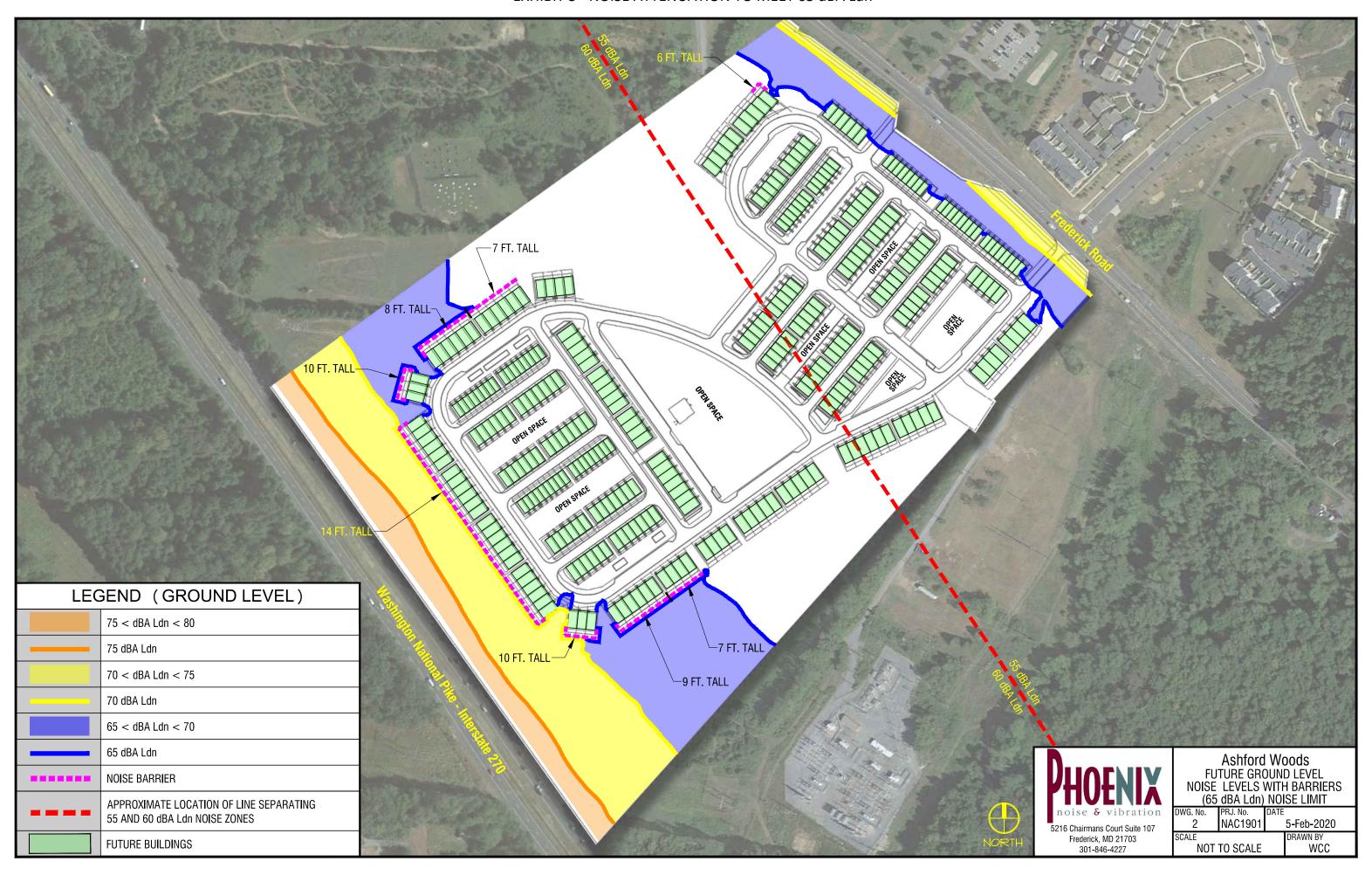
ASHFORD WOODS, LLC

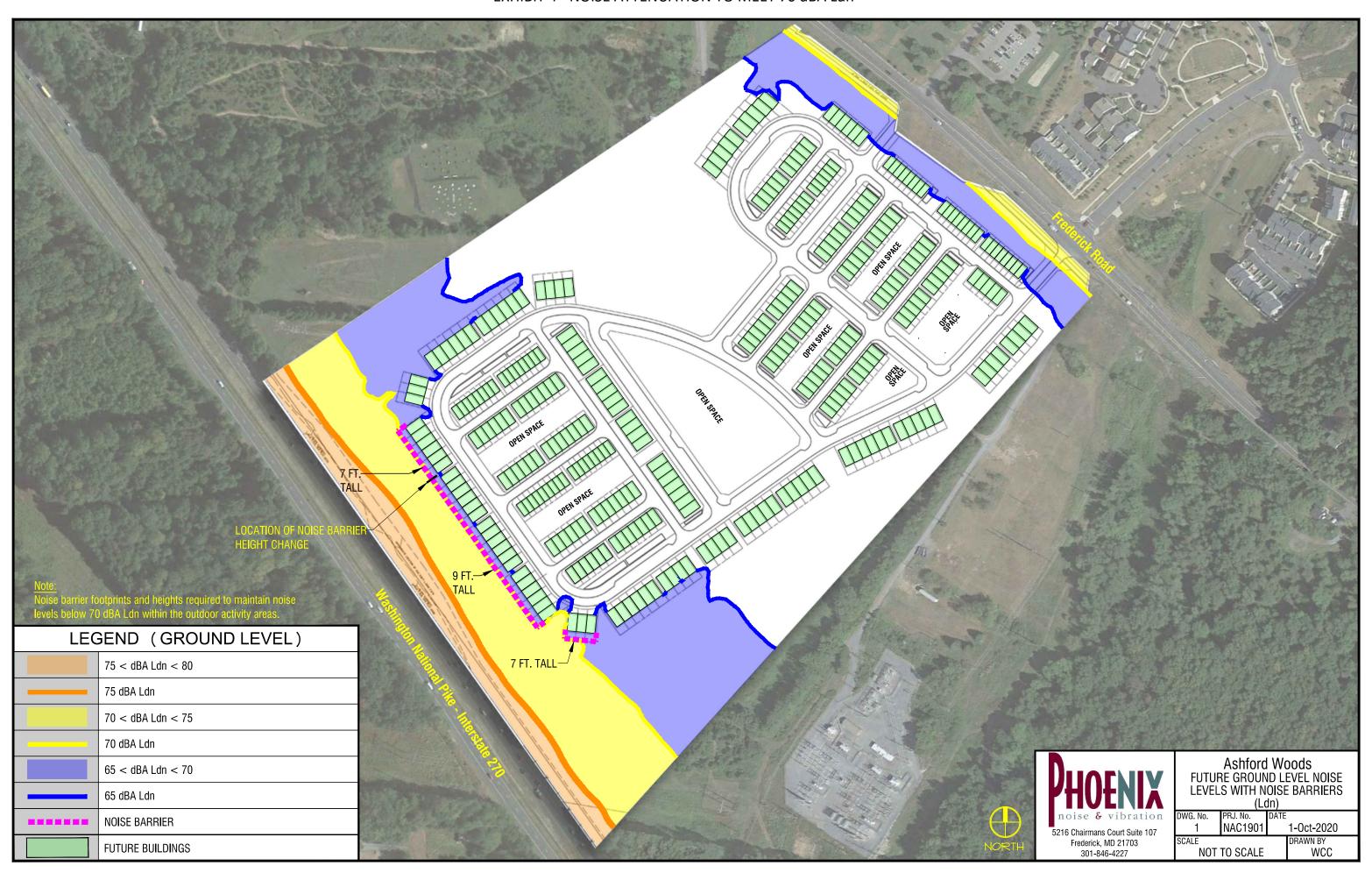
Michael Natelli

cc: Robert Kronenberg, Carrie Sanders, Angelica Gonzalez, Mary Jo Kishter











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5 October 2020

Ashford Woods Noise Barrier Analysis

Montgomery County, Maryland

Report No. 201005 Project No. NAC1901

For: Natelli Communities

By: Jeff Ford



1 EXECUTIVE SUMMARY

Phoenix Noise & Vibration has conducted a noise barrier analysis for the proposed Ashford Woods development in Montgomery County, Maryland. Upon completion, the development will consist of 322 townhomes and 21 two-over-two condominiums (42 units). Some of these townhomes will include rear yards. Additionally, the site will contain seven common open spaces. This noise barrier analysis was conducted to determine the required footprints and heights for several localized noise barriers to maintain noise levels which meet Montgomery County's outdoor noise level limit.

Noise level limits are assigned to developments in Montgomery County based upon a map developed by the County in 1983, which presents either a 55, 60, or 65 dBA Ldn limit that must not be exceeded depending upon the location within the County. According to Montgomery County, noise levels within outdoor activity areas must be held below the respective limit in which the property is located on the map. According to the map, a portion of the Ashford Woods site is located within the 60 dBA Ldn noise zone, with the portion of the site located within the 55 dBA Ldn noise zone. This map and the Ashford Woods site location are presented as Figure 1 in the Appendix.

While the site is located within these noise zones, it is recommended that these noise level limits not be used for the outdoor activity areas of the Ashford Woods site. Montgomery County has changed significantly since the development of the noise zone map in 1983, such that sites along I-270 (including Ashford Woods) will be exposed to much higher noise levels due to the growth and development of the County further away from the traditional urban and suburban areas. Areas which were once thought of as rural are now considered suburban and those considered suburban are now considered urban.

In addition to this change in the County's noise exposure map, outdoor activity areas are typically used and occupied during daytime hours. The Ldn metric has a 10 dBA penalty built in to the calculation to account for the increased sensitivity during nighttime hours; therefore, it is somewhat inaccurate to require outdoor areas (that are typically only used in daylight) to be held to a metric that applies a penalty during nighttime hours. This is especially true for an area near I-270 which has very high nighttime noise levels relative to other roadways. To use the Ldn standard for outdoor activity areas, which are used primarily during daytime hours, inappropriately sets noise impact limits upon these areas. Therefore, it is recommended that the 24-hour average (Leq) value be used as the metric for evaluating noise impact to outdoor activity areas rather than the Ldn value.

This analysis was conducted to determine the noise barrier requirements needed to maintain noise levels in rear yards to below the 65 dBA Leq (24-hour) level recommended for the site. In this average 24-hour noise level scenario, noise barriers ranging from 6-8 feet tall would be required to maintain noise levels in rear yards below 65 dBA Leq (24-hour).



The proposed relaxation of the Ldn standard is not intended for indoor residential noise levels. Interior noise levels should be governed by the Ldn standard and will be addressed under separate cover.



2 BACKGROUND

This analysis has been based upon the Phase I Noise Analysis¹ (Report #191121) for Ashford Woods, which determined the future transportation noise impact upon the development due to I-270 and North Frederick Road (Route 355). The Phase I Noise Analysis was conducted according to Montgomery County's noise regulations for residential development, which, for the location of the development, require indoor noise levels to be maintained at 45 dBA Ldn and outdoor noise levels to be maintained at 55 and 60 dBA Ldn.²

Existing transportation noise levels throughout the site were established through a combination of on-site noise measurements (conducted on October 15-16, 2019) and computerized noise modeling. Future noise level impact throughout the site was calculated using a calibrated computer model capable of determining the noise level impact from multiple noise sources while accounting for factors such as topography, buildings, and roadway data.

Relative to the proposed Ashford Woods development, the Phase I Noise Analysis determined the following:

- 1. According to the 1983 Staff Guidelines Map, the site is partially within either the 55 dBA Ldn or the 60 dBA Ldn recommended noise zones (refer to Figure 1 of the Appendix).
- 2. Based upon measurement and forecasted modeling by Phoenix Noise & Vibration, the site will be exposed to noise levels up to 73 dBA Ldn at the ground level. Drawing 1 of the Appendix presents the future ground level noise levels using the Ldn metric.
- 3. The rear yards of 53 townhomes will be exposed to noise levels above 65 dBA Ldn.
- 4. Additional analysis is required to determine the mitigation necessary to maintain noise levels in outdoor activity areas below the noise level limit chosen for this analysis and residential interior spaces below 45 dBA Ldn.

As indicated above, Phoenix Noise & Vibration recommended in the Phase I Noise Analysis that the site should be governed by an outdoor noise limit of 65 dBA Ldn rather than 55 and 60 dBA Ldn as indicated on the 1983 Staff Guidelines Map. This is due to the fact that the guideline values are based upon noise zones developed for the County in 1983, which reflect the population distribution and roadway network at the time. Since 1983, Montgomery County (especially the Clarksburg area) has changed significantly.

¹ Ashford Woods Phase I Noise Analysis, Report #191121 completed by Phoenix Noise & Vibration for Natelli Communities, dated 21 November 2019. Note that the site was originally referred to as Egan Property.

² The day-night average noise level, or Ldn, is the equivalent sound level (average over a 24-hour period) obtained by adding 10 dB to sound pressure levels measured from 10:00 p.m. to 7:00 a.m. This 10 dB "penalty" accounts for the added annoyance caused by noise created during the nighttime hours. The Ldn is NOT a measurement of the instantaneous noise level. It is possible for one single event (e.g. a siren) to generate a very high noise level (e.g. 95 dBA) yet have a much lower, moderate exterior Ldn (e.g. 65 dBA Ldn).



2.1 24-Hour Average Noise Levels

As mentioned, the Ldn measurement includes a 10 dBA penalty for all nighttime measurements between the hours of 10:00 PM and 7:00 AM. Essentially 10 dBA points are added to every nighttime measurement prior to calculating the average noise level over the 24 hour period. This is to account for human sensitivity during nighttime hours. While this metric is appropriate for residential buildings and most outdoor activity areas, in some instances, when there are very high nighttime noise levels, this metric can be inappropriate for outdoor activity areas.

For example, one extreme use of the Ldn metric is for a site adjacent to a railway line that is used mostly at nighttime by heavy freight trains with little or no railway traffic during daytime hours. The Ldn value for such a site, due to the loud, nighttime trains and the 10 dBA penalty, is not an appropriate measure for an outdoor activity area that will only be used during the day when it is exposed to little or no railway noise. If required to meet the Ldn standard for the outdoor activity area, a very high noise barrier would be in order but inappropriately built since the activity area is not occupied during the nighttime hours. More appropriately, looking solely at the 24-hour average (Leq) value, with no nighttime penalty, is a recommended metric for this outdoor activity area and, if needed, yields a more suitable barrier design.

Since I-270 generates very high noise levels during nighttime hours and the site is affected by that, it is recommended to not use the Ldn metric when assessing noise impact upon the outdoor activity areas at the site, since they will typically not be occupied during nighttime hours. Therefore, it is recommended to analyze the site according to a 65 dBA Leq (24-hour) limit; i.e. noise levels within the outdoor activity areas should be maintained below a 24-hour average noise level of 65 dBA (with no 10 dBA penalty during nighttime hours).

3 MITIGATION

According to Montgomery County's noise regulations for residential development, residential sites located within the 1983 Staff Guidelines Map recommended 55 and 60 dBA Ldn zones require further analysis to determine the mitigation measures necessary to maintain noise levels in outdoor activity areas and indoor living spaces at their noise level limits (55 and 60 dBA Ldn) and 45 dBA Ldn, respectively. Note that the analysis within this report only includes mitigation of noise impacting outdoor activity areas (rear yards). Analysis of indoor living spaces will be completed at a different time. Drawing 1 of the Appendix presents the future ground level noise levels using the Ldn metric.

3.1 Noise Barrier

The Phase I Noise Analysis conducted for the property determined that if Montgomery County will hold the open spaces and the townhomes' rear yards to the outdoor limit as indicated on the Staff Guidelines Map, additional mitigation will be necessary for most of the rear yards.

Due to the change in Montgomery County over the past 37 years and the fact that the Ldn metric adds a penalty of 10 dBA to noise levels during nighttime hours, it is recommended to analyze the site, and, if needed, design noise barriers according to a 65 dBA Leq (24-hour) limit rather than a 55 or 60 dBA Ldn limit. The average 24-hour (Leq) noise levels are presented on Drawing



2 of the Appendix, which indicate that noise levels will be up to 68 dBA upon the rear yards closest to I-270.

A noise barrier analysis was conducted to determine the minimum height required to mitigate noise levels in these outdoor activity areas to below the recommended value of 65 dBA Leq (24-hour). The resulting noise barriers are presented on Drawing 3 of the Appendix. To maintain noise levels below 65 dBA Leq (24-hour) within the rear yards, noise barriers would need to range from 6 to 8 feet tall and be localized along the rear yards of townhome buildings.

Note that these noise barriers, if built, will provide approximately 3 dBA of noise reduction (see the difference in noise levels within the rear yards of the townhomes closest to I-270 in Drawings 2 and 3). While this difference will lower noise levels within the rear yards to below 65 dBA Leq (24-hour), 3 dBA represents a change in noise levels that is subjectively considered "barely perceptible."

3.2 65 dBA Leq (24-hour) vs. 65 dBA Ldn vs. 55/60 dBA Ldn

To maintain noise levels within the rear yards of all townhomes below 55 and 60 dBA Ldn, noise barriers that range from 11 to 24 feet tall will be required along the rear yards, only 18 feet from the rear of the townhomes. Walls of this magnitude and such close distance to the homes will block significant sunlight and reduce air flow to the outdoor areas. Noise barriers to maintain noise levels below 55 and 60 dBA Ldn in the common open spaces will need to completely enclose the open spaces and be at least 30 feet tall in some locations.

Additionally, while sometimes it would be recommended to use an outdoor activity area limit of 65 dBA Ldn, this requirement will still yield noise barriers up to 14 feet tall approximately 18 feet from the rear of the townhomes. Similar to the 55 and 60 dBA Ldn requirement, this limit would require a very tall wall to be constructed along the rear yards, significantly blocking sunlight, and possibly reducing airflow.

It is strongly recommended in this case to analyze the outdoor activity areas according to a 65 dBA Leq (24-hour) limit. This limit will more accurately reflect the actual noise levels during occupation of the outdoor areas.

If required, the noise barriers must be composed of masonry, concrete, vinyl, or wood. The noise barriers must be built into the grade without gaps or openings. If a vinyl or wood fence is to function as a noise barrier, it must be selected carefully as not all fences will provide the required noise reduction. One such vinyl noise barrier product is the Tuf-Barrier Noise Wall manufactured by AIL. Another similar product is SimTek. If a wood fence is to function as a noise barrier, it must be of board-on-board construction.



4 CONCLUSION

The rear yards and open spaces throughout Ashford Woods will be exposed to future roadway noise levels above up to 73 dBA Ldn. While this represents a moderate to high level of noise impact, compliance with Montgomery County's residential noise regulation can be achieved through noise barriers.

It is recommended that the Staff Guidelines for the Consideration of Transportation Noise Impact In Land Use Planning and Development be relaxed to target an outdoor noise level of 65 dBA Leq (24-hour) in outdoor activity areas such as rear yards (Drawing 3 of the Appendix). To maintain this noise level, noise barriers, if required, will provide approximately 3 dBA of noise reduction. While this difference will lower noise levels within the rear yards to below 65 dBA Leq (24-hour), 3 dBA represents a change in noise levels that is subjectively considered "barely perceptible." Additionally, please note that the common open spaces will not be exposed to noise levels greater than 65 dBA Leq (24-hour) and will require no mitigation to meet this limit.

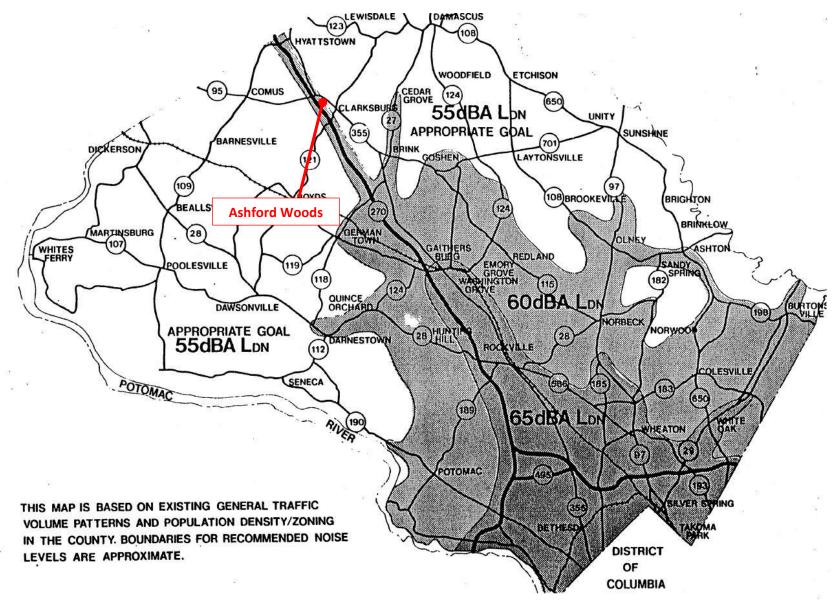
Please note: The results of this Noise Barrier Analysis have been based upon the site and architectural information made available at the time of the analysis, including existing topography and roadway alignments, projected roadway traffic volumes, the proposed building layout. Should any of this information be altered, additional analysis will be required to determine if the results and recommendations presented herein are capable of reducing exterior and indoor noise levels to comply with Montgomery County's noise regulations for residential development.

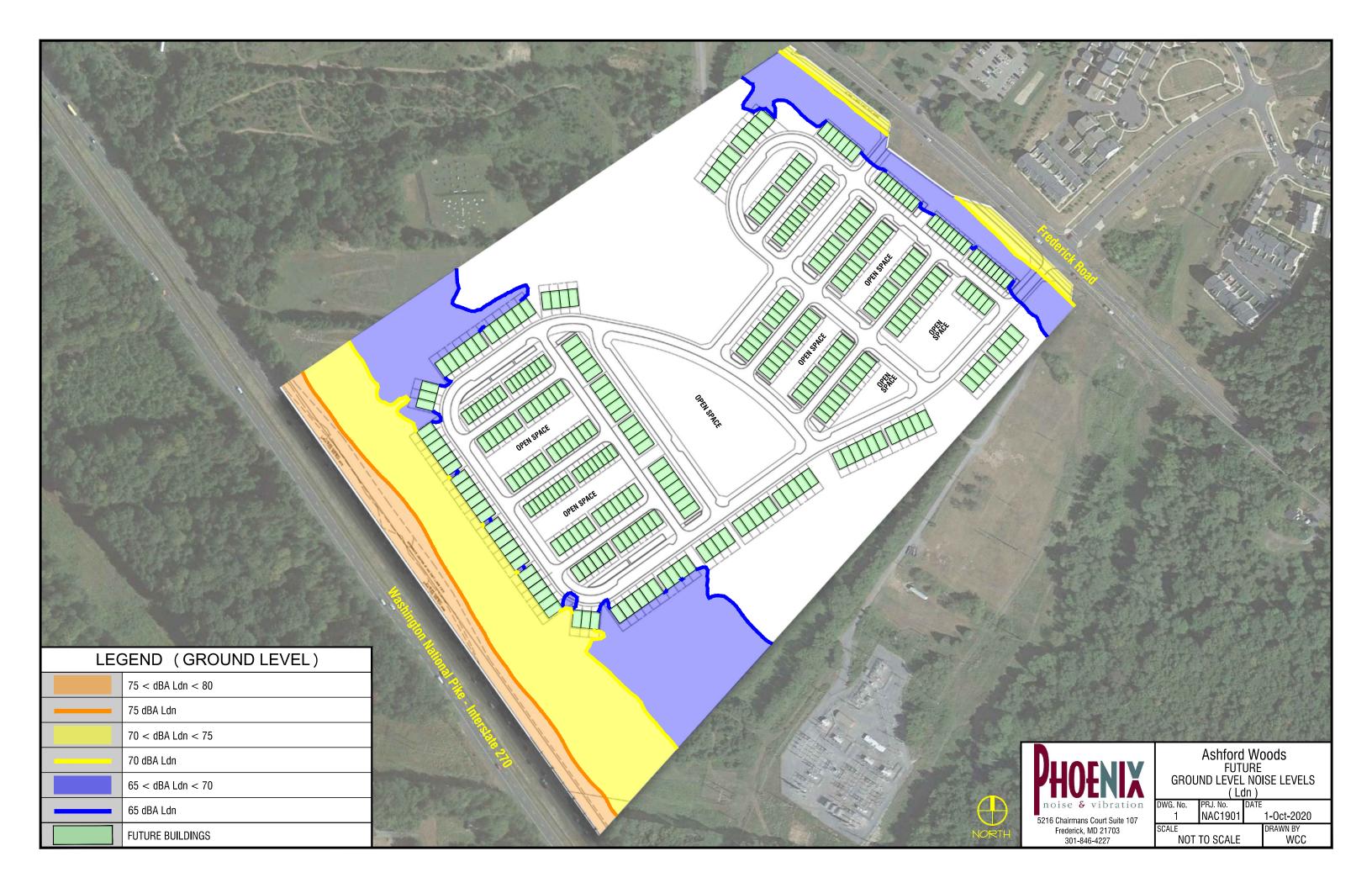


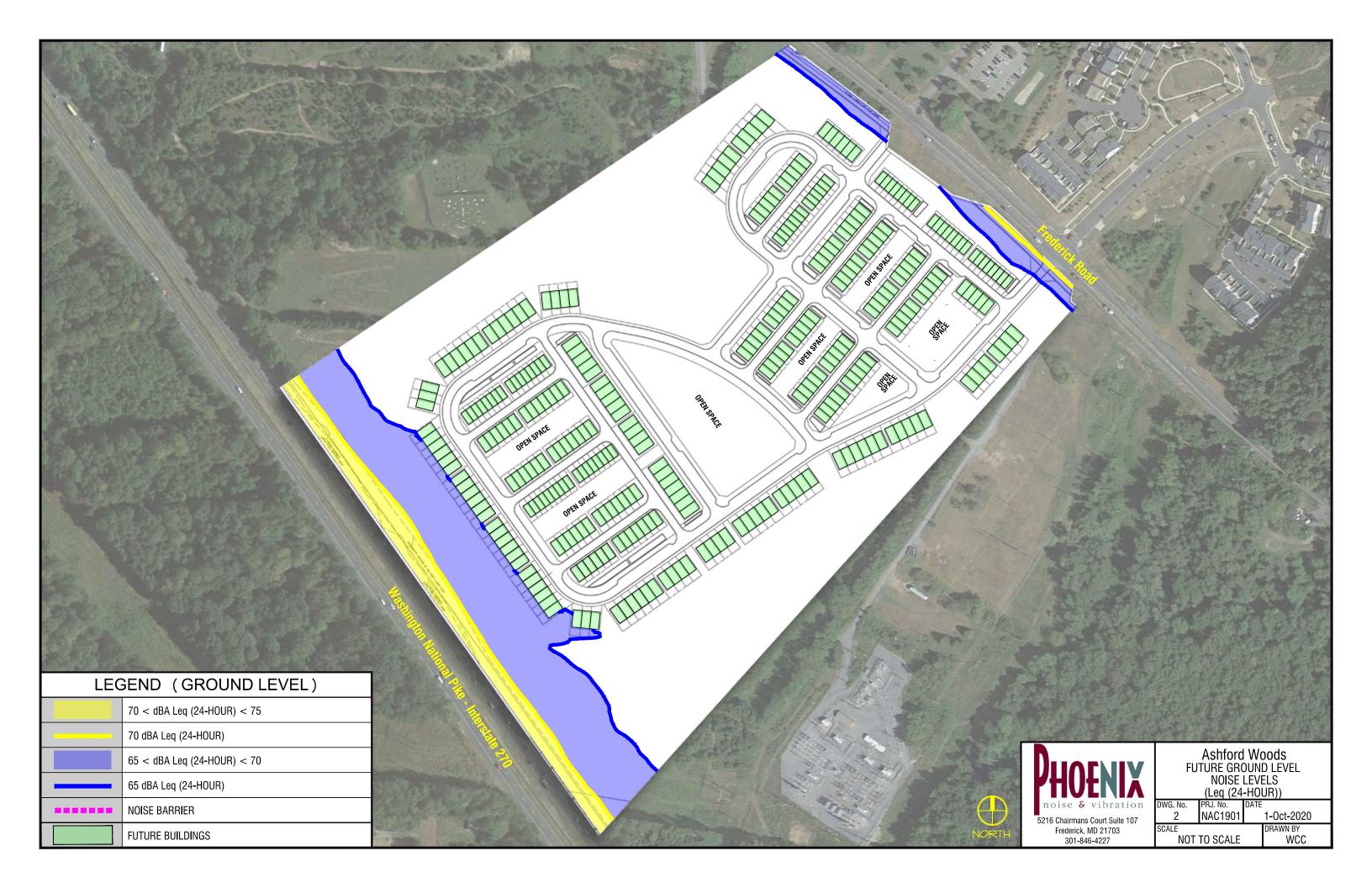
APPENDIX

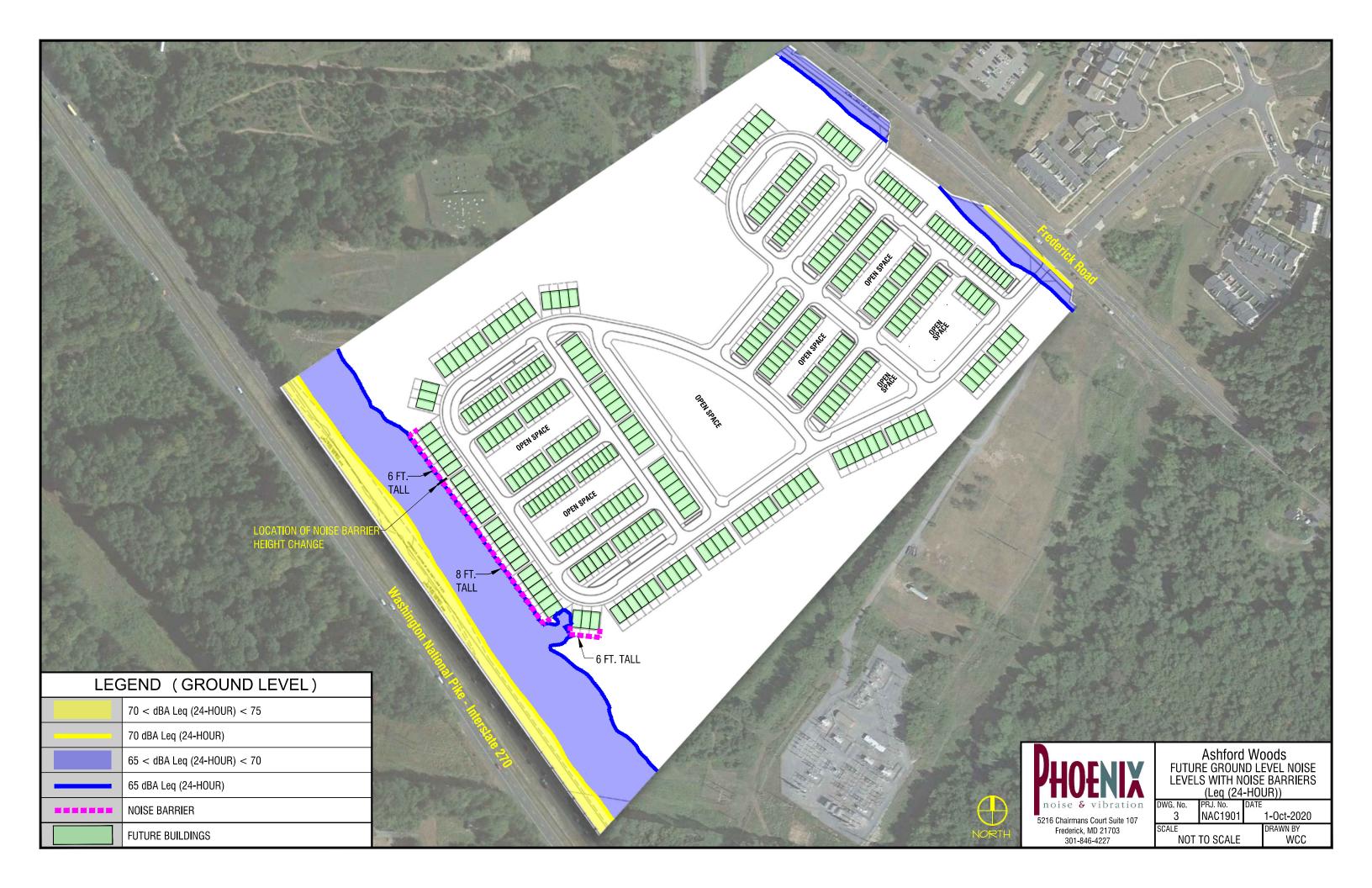


Figure 1: Map 2-1 from Staff Guidelines for the Consideration of Transportation Noise Impacts In Land Use Planning and Development (June 1983).









MD-355 TRANSIT EASEMENT - PROPOSED × No. 10 ROCKVILLE OFFICE FORMERLY KNOWN AS EGAN PROPERTY GAITHERSBURG, MD 20878 REVISED PRELIMINARY PLAN SUBMITTAL KDL 09-04-2020 CONTACT "MISS UTILITY" AT 1-800-257-7777, 48 HOURS PRIOR TO CLARKSBURG MD 20871-0178 THE START OF EXCAVATION. IF CLEARANCES ARE LESS THAN SHOWN ON THIS PLAN OR TWELVE (12) INCHES, WHICHEVER IS LESS, CONTACT THE ENGINEER AND THE UTILITY COMPANY BEFORE PROCEEDING WITH CONSTRUCTION. CLEARANCES LESS THAN NOTED MAY REQUIRE REVISIONS TO THIS PLAN. 233NW14 2 Research Place, Suite 100 Engineering Surveying Planning 240-375-7279 301-670-4020 PRELIMINARY PLAN SUBMITTAL KDL 12-19-2019 #120200110 **BOB EGAN** MICHAEL NATELLI Rockville, MD 20850 SITE DATUM PROJECT NO. horizontal: <u>NAD 83/9</u> P. 301.948.2750 F. 301.948.9067 CAD STANDARDS VERSION: V8 - NCS CLARKSBURG (2ND) ELECTION DISTRICT, MONTGOMERY COUNTY, MARYLAND www.solteszco.com **Environmental Sciences** 0775-90-00 TECHNICIAN: G.M.M. CHECKED: K.D.L. P:\07750900\Exhibits\Transit-Esmt-Exhibits\Proposed-Transit-Esmt.sht Scale= 100.0000 sf / in. User= kwalker PLTdrv= PDF_Grey_150.pltcfg Pentbl= TEXT_SUB.tbl 10/6/2020 8:22:18 AM

