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**TO:** Albemarle County Planning Commission

**FROM:** Kevin McDermott; Principle Planner – Transportation

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**SUBJECT:** ZMA201900004 – Breezy Hill Transportation Analysis

The Breezy Hill Development, in eastern Albemarle County located off US 250 in the Village of Rivanna Development Area, is a proposed development of 160 detached single-family residential units. The following table depicts the expected trip generation from the proposed development based on the Institute of Transportation Engineers (ITE) Trip Generation Manual:

Use Description	Units	Daily Trips	AM Peak		PM Peak	
			in	out	in	out
Single Family Detached	160	1602	29	89	100	60
Total Peak Hour Trips			118		160	

Staff requested a Traffic Impact Analysis be developed to support this application. The following information is generally based on the findings found in the above referenced application plan and associated Traffic Impact Analysis and Supplemental Studies #1 and #2 as submitted by EPR, P.C. initially dated March 2018 and most recently revised January 2020.

The 1,602 trips generated by the proposed development would be added to the current traffic on US 250 which, in the segment adjacent to the development, carries 5,200 vehicles per day (VPD) which is a 31% increase. US 250 from the Charlottesville City Line to the Village of Rivanna is characterized by poor operations in the AM and PM peak hours and has been identified as a corridor in need of major improvements by the Albemarle County Comprehensive Plan, the Charlottesville-Albemarle Metropolitan Planning Organization Long-Range Transportation Plan, and numerous other studies. These poor operations are documented in the Breezy Hill TIA. The identified issues in the corridor have led to the funding of large-scale transportation improvements and identified high priority future projects described in more detail below.

The TIA focuses on two intersections currently experiencing poor service, the US 250/Rt 22 and US 250/N Milton intersections. These intersections are closely spaced likely impacting operations between them. The TIA shows the Rt 22 intersection with overall failing Level of Service (LOS) and numerous failing movements in the future (2023) No-build Scenario with extensive queuing and delays. The Build Scenario would result in only minor increases in delay because the trip generation and distribution does not result in a significantly large increase of trips at these intersections during peak hours.

The developer is proffering two measures to reduce the transportation impacts from the proposed development. These include signal upgrades to improve timing and coordination of the US 250 intersections with Rt 22 and N Milton Rd and \$500,000 to support transportation, transit, or school capital

projects. Discussions with Jaunt regarding the potential for effective transit service in this corridor over the next ten years have resulted in a determination that it is unlikely transit service could be effectively delivered for the proposed funding. There is little capacity for non-local funds to be matched with the proposed proffer and the cost of service would be much higher than \$50k/year. Demand for service in this corridor is also currently very low and low residential density makes it very difficult to deliver convenient service. For these reasons staff has not evaluated the results of the traffic study showing the developer estimated reductions in traffic from the transit service. While other transportation needs have been identified in the corridor the proposed \$500K, while a significant amount, would not likely fully fund any of the identified solutions and the ability to leverage this funding into another project has not been assessed to the level necessary to state with certainty that it could address a need on the short term.

With the signal improvements only, the TIA shows some movements continuing to fail in the peak hours, and some movements worsening, however, overall intersection operations would improve slightly over the future no-build condition, even with the additional traffic generated by the development. The Virginia Department of Transportation has reviewed the signal timing plan and determined it to be valid.

The following table displays operations for overall intersection in the peak hours and the movements identified with a failing LOS in any scenario, color coded to show significant changes between the No Build and Build Scenario with improvements (green for positive change and orange for negative change).

Movement	2023 No Build			2023 Build			2023 Build w/ signal improvements		
	LOS	Seconds Delay	Queue	LOS	Seconds Delay	Queue	LOS	Seconds Delay	Queue
AM US 250 WB through at Rt 22	F	141.6	927'	F	179.6	927'	F	99.7	926'
AM Quarry Exit	F	136.2	119'	F	136.2	125'	F	136.2	117'
AM Rt 22 SB Left/Through at US 250	E	65.1	102'	E	65.3	82'	E	65.3	78'
<b>AM US 250/Rt 22 Overall</b>	<b>F</b>	<b>96.6</b>	<b>2,276'</b>	<b>F</b>	<b>120.6</b>	<b>2,278'</b>	<b>E</b>	<b>74.6</b>	<b>2,268'</b>
PM US 250 EB through at Rt 22	F	117.8	513'	F	139.1	539'	D	42.1	503'
PM Quarry Exit	F	83.4	60'	F	85.4	60'	F	117.2	63'
PM Rt 22 SB Left/Through at US 250	D	44.6	70'	D	46.9	84'	F	86.6	109'
<b>PM US 250/Rt 22 Overall</b>	<b>F</b>	<b>81.9</b>	<b>1,727'</b>	<b>F</b>	<b>98.4</b>	<b>1,994'</b>	<b>C</b>	<b>34.0</b>	<b>1,727'</b>
PM Milton NB left at US 250	D	37.5	167'	D	39.6	159'	E	79.3	217'
PM Milton NB right at US 250	C	29.2	59'	C	30.9	49'	E	56.7	60'
<b>AM US 250/N Milton Overall</b>	<b>D</b>	<b>38.2</b>	<b>2,211'</b>	<b>D</b>	<b>40.2</b>	<b>2,471'</b>	<b>C</b>	<b>33.0</b>	<b>2,245'</b>
<b>PM US 250/N Milton Overall</b>	<b>B</b>	<b>18.9</b>	<b>1,506'</b>	<b>C</b>	<b>22.9</b>	<b>1,583'</b>	<b>B</b>	<b>13.2</b>	<b>1,604'</b>

The TIA also analyzed access to the development at the proposed new site entrance on US 250 and at Running Deer Dr. The results show that both intersections would operate acceptably with little to no mainline delay. Initial recommendations appear to demonstrate a need for a right turn lane and taper from

US 250 eastbound at the new site entrance, but this will need additional analysis during the site plan review stage.

Internally, the Breezy Hill development would have a modified block network that generally meets the goals of the Comprehensive Plan for residential developments and includes a series of pedestrian paths to facilitate access throughout the development. The applicant has requested a waiver from the zoning ordinance requirement for the internal street network to be constructed with curb/gutter, sidewalks, and planting strips. Transportation staff does not support this waiver as a residential development of this size and density is likely to see a high number of pedestrians moving between homes and throughout the community. Sidewalks and buffer strips will help facilitate the safe movement of pedestrians, create a more social atmosphere for residents, and help to calm traffic within the development. Sidewalks should meet VDOT requirements and be contained within the public right-of-way. The proposal also would construct a shared-use path along the frontage of US 250 which should be required to be within the public right-of-way and built to VDOT standards.

The Rivanna Village Master Plan recommends specific transportation improvements (Master Plan page 38) as “essential” to “be constructed before new development occurs in the Village.” The following provides additional information on those transportation improvements including current project status, project need, and relationship between the proposed development and that need.

1. **Interchange improvements at I-64 and US 250 East** -The I-64 and US 250 Interchange is fully funded for reconstruction into a diverging diamond type interchange and expected to be completed prior to build out of this proposed development. The improvements could effectively handle any additional traffic from this development and therefore, this project can be considered complete for the purposes of this rezoning application.
2. **Six-lane US 250 from Free Bridge east to the I-64 interchange** – The current proposal for this segment of US 250 is to develop two thru lanes and a continuous right turn lane through the entire corridor. The continuous left turn lane would be replaced with a median and left turn lane as necessary. Portions of this cross-section have been completed since the approval of the Village of Rivanna Master Plan. The completion of the remaining sections is considered a high priority and recommended as a SMART Scale application in the 2020 grant cycle but are unfunded at this time. Therefore, completion of these improvements is a factor not fully addressed as it relates to any decision on this rezoning from a Master Plan standpoint.
3. **Four-lane US 250 from the US250/I-64 interchange to Route 729 (Milton Road) and, possibly, Glenmore Way** – Although subsequent studies have recommended different solutions to address problems in this segment, no improvements have been funded or advanced in any manner. Operational improvements, including widening in portions of the segment, continue to be necessary and recommended and should be considered important in addressing this Master Plan requirement. These improvements are identified in the Albemarle County Transportation Priorities List at #39 in 2019.
4. **Intersection improvements at US 250 and Route 729 (Milton Road)** – The TIA addresses this project and identifies signal upgrades to improve operations at this intersection. The developer has proffered these upgrades through this rezoning application. Additional long-term improvements will still be necessary at this intersection. This proffer will essentially result in the impacts from the proposed development not making the intersection operate appreciably worse but does not necessarily address all the intersection issues or the Master Plan requirement.
5. **Bridge improvement or replacement over railroad at Route 22 (Louisa Road)** – This project has been completed since the approval of the Rivanna Village Master Plan. However, the bridge was replaced without additional capacity added. There is no additional space on the bridge to allow for widening beyond the two existing lanes which relates to the requirement discussed in #3 above.
6. **Addition of eastbound left turn and westbound right turn lanes on US 250 at Route 616 (Black Cat Road)** – This project has not been prioritized in the Albemarle County Transportation Priorities List and was not evaluated in the TIA. Staff did not request this to be evaluated because

of the low number of site generated trips that would go to this intersection. The C-A MPO Long Range Transportation Plan identified some minor congestion occurring at this intersection. There would likely be an operational benefit from these improvements and therefore should be a consideration as it relates to Master Plan consistency and this application. However, it should be noted that the proposed development of Breezy Hill would have little to no impact on traffic operations at that intersection.

In conclusion, the traffic impacts of the proposed development, with the proposed proffer, are minimal, although additional traffic will be added to the already congested corridor of US 250. Funded improvements such as the diverging diamond at Exit 124 and intersection improvements at US 250 and Rt 20 (Stoney Point Rd) will be complete by the time this development reaches build-out and should result in an overall improvement from current conditions in the corridor. Other recommended improvements will remain incomplete for the foreseeable future. This includes various capacity and safety improvements on US 250 between the Charlottesville City Line and Black Cat Rd which will be impacted by traffic generated by the proposed development. The proffered signal upgrades essentially result in no additional negative traffic impacts from the proposed development at the intersections of US 250 and Rt 22 and Milton Rd. The VOR Master Plan is clear in its statement that *"It is essential that all of the US 250 improvements be constructed before new development occurs."* The Master Plan directive should continue to be considered even if the specific impact from this proposed development is minimal.