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**TO:** Cindy Petkac  
Town of Vienna Department of Planning and Zoning

**FROM:** William F. Johnson, P.E.

**RE:** 444 Maple; Summary of Transportation Improvements

**DATE:** September 20, 2018

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In response to comments and concerns raised by Town Council at the Council meeting on August 20, 2018, the Applicant has been exploring additional transportation improvements/enhancements to address the prevailing traffic concerns along Maple Avenue and Nutley Street adjacent to the 444 Maple site with the intent that these improvements will be discussed with Town Council at the scheduled worksession on October 4, 2018. An exhibit, prepared by Walter L. Phillips, Inc., illustrates several of the physical improvements under consideration. A summary of the improvements/enhancements is provided as follows:

1. Commitment to a 25% Residential TDM Trip Reduction

The Applicant has indicated a willingness to commit to a 25% residential trip reduction as part of the proposed Transportation Demand Management (TDM) Plan. Applying this reduction results in a reduction of 20 AM peak hour trips and 25 PM peak hour trips from the site trips evaluated in the Traffic Impact Analysis (TIA). As a result, the westbound left turn movement from Maple Avenue on to Nutley Street improves from a Level of Service (LOS) "F" to a LOS "E" during the AM peak hour under site build out conditions.

2. Extend Left Turn Lane from Westbound Maple Avenue on to Nutley Street

As shown on the exhibit, the Applicant proposes to stripe approximately 60 additional feet of turn lane storage on the Maple Avenue westbound left turn lane on to Nutley Street. This distance represents the forecasted weekday queue increase from the proposed development (prior to the trip reduction consideration discussed in #1 above).

3. Extend Left Turn Lane from Northbound Nutley Street on to Maple Avenue

As shown on the exhibit, the Applicant proposes to modify the existing median along Nutley Street in order to increase available queue storage approaching Maple Avenue. This improvement would allow for more even lane utilization for the two northbound left turn lanes

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since current field observations show the inside (median) left turn lane is often blocked by adjacent stopped vehicles.

### 4. Widen Site Exit on Maple Avenue to Provide Separate Right and Left Turn Lanes

As shown on the exhibit, the Applicant has modified the proposed exit along Maple Avenue in order to provide separate right and left turn lanes exiting the site. This modification provides additional queue storage for exiting vehicles and would decrease internal queuing within the site.

### 5. Maple Avenue/Nutley Street Signal Timing Modifications

The Applicant is working with Town staff to explore additional modifications to Maple Avenue/Nutley Street traffic signal operations in order to further reduce delays. One potential option is to allow the westbound left turn movement to operate as a lagging phase. According to the analysis model, this change in operation would result in the left turn lane operating at LOS "D" during the PM peak hour with a 44-foot reduction in queue over those results documented in the TIA.

### 6. Pedestrian Safety Improvements at Maple Avenue/Nutley Street

The Applicant is continuing to work with Town staff on options to improve pedestrian safety at the Maple Avenue/Nutley Street intersection, including signal operation adjustments (such as a Leading Pedestrian Interval, or LPI) and modifications to the crosswalks to improve visibility.

### 7. Nutley Street Bus Stop Improvements

At the request of staff, the Applicant is investigating a potential design for a cantilevered bus stop along Nutley Street.

### 8. Shuttle Commitment

The Applicant will be including specific criteria for determining the success of the proposed shuttle to Metrorail based on measured ridership and the TDM trip reduction goal outlined in #1 above.

In addition to the above, the Applicant has explored other potential transportation modifications that were determined not to be feasible or appropriate in consultation with Town staff. These include the following:

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## MEMORANDUM

- Median break on Nutley Street to allow for site left turn egress – Due to the proximity of the Maple Avenue/Nutley Street intersection and the potential for sight distance conflicts, it was determined that a median break at the site's Nutley Street access would result in unsafe vehicle maneuvers.
- Signalization of the site's Maple Avenue entrance – Based on a review of the applicable Manual on Uniform Traffic Control Devices (MUTCD) and VDOT criteria, it was determined that the forecasted vehicle trips generated by the site would not warrant a traffic signal and the Maple Avenue site entrance.

We look forward to continuing to coordinate the above transportation improvements/considerations with Town staff and Council.