WELLS + ASSOCIATES

MEMORANDUM

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To: Cindy Petkac, AICP
Director of Planning and Zoning
Town of Vienna

From: Brian J. Horan, P.E.
William F. Johnson, P.E.

Re: 444 Maple Traffic Impact Analysis

Subject: Response to Peer Review Comments Dated August 2, 2018

Date: August 6, 2018

This memorandum serves as a response to a peer review completed by Kimley Horn of the 444 Maple Traffic Impact Analysis (TIA) prepared by Wells + Associates and dated December 6, 2017 as revised through February 16, 2018. Each comment is reproduced below along with a response.

1. **Request that the applicant review, further expand on, and, if applicable, correct the trip generation shown in Table 5-1 (using either ITE 9th or 10th generation data).**

Response 1: In reviewing the trip generation Table 5-1 no errors or inconsistencies could be found. A comparison between ITE 9th edition and 10th edition was also completed. As noted in the review, applying the 10th edition ITE rates to the proposed development results in fewer forecasted peak hour trips. The 10th edition also provides a land use code (LUC) 231 "Mid-Rise Residential with 1st-Floor Commercial", which would be an appropriate land use description of the proposed development. A comparison of those rates/equations resulted in significantly fewer trips when using 10th edition. A table showing those results is provided as an attachment herein. It should be noted that continuing to use the ITE 9th edition provides a more conservative analysis.

2. **Verify that the use of 2015 traffic count data is acceptable.**

Response 2: The traffic analysis was scoped/initiated in 2016 and all but one intersection in the study area was counted in 2016; the remaining intersection (Maple Avenue/James Madison Drive) was counted in 2015. Therefore, counts taken in 2015 and 2016 should be considered reasonable. As stated in the report, an annual growth factor was applied to the baseline count data to forecast for a

projected site build-out year of 2022. This growth factor, in addition to directly applying approved but unbuilt (i.e. "pipeline") development trips, estimate the traffic growth that a roadway network will experience at the time of site completion and occupancy. VDOT published count data show that traffic volumes along Maple Avenue and Nutley Street have decreased since 2013; therefore, the use of a growth factor in the TIA likely results in a conservative traffic forecast.

3. **Request that the applicant provide the basis for using HCM 2000 methodologies or otherwise update the analysis to demonstrate the results under HCM 2010 methodologies.**

Response 3: The analysis was scoped with VDOT due to the trip generation of the previously proposed development program being nearly at the 5,000 Average Daily Traffic (ADT) threshold for a Chapter 870 required study. With the reduction of the development program during the course of the application VDOT was no longer required to review the TIA. HCM 2000 was used for this analysis to remain consistent with analyses that were performed for the two background pipeline developments, Marco Polo and Flagship Carwash.

4. **Request that the applicant conduct turn lane warrant analyses at the site entrances. While we note that right turn lanes may not be desired along these streets and may be inconsistent with the Maple Avenue Commercial corridor, conducting turn lane warrant analyses could reveal a potential queuing/site access issues that may need to be addressed in the future.**

Response 4: As stated previously, the TIA was originally scoped as a Chapter 870 with VDOT, which typically requires a turn lane warrant analysis. With the reduction of the development program a Chapter 870 VDOT review was no longer required; therefore, it was unnecessary to conduct turn lane warrants at the site entrances. A two way left turn lane is currently provided at the Maple Avenue entrance and, as alluded to in this comment, no right-turn lanes are currently provided along Maple Avenue for other entrances.

5. **Request that the applicant provide additional details regarding traffic impact mitigation options. For example, the Town may consider requiring the applicant to participate in traffic signal or intersection configuration improvements at the intersection of Maple Street and Nutley Avenue.**

Response 5: The Town had recently provided modified signal timings for the Maple Street and Nutley Avenue intersection which were included in the February update to the TIA. Staff have further indicated that the Town is exploring the implementation of Adaptive Signal Control technology for signals along the Maple Avenue corridor. The timeline for implementing those potential signal improvements has not been established. No further intersection configuration modifications were proposed by Town staff for evaluation in the TIA.

As concluded in the TIA, the impacts to the surrounding network with the proposed development are minimal and Levels of Service and Queues are generally consistent with those that would be expected without the site. Therefore, no physical roadway improvements were evaluated or proposed. However, the Applicant has committed to implement a Transportation Demand Management (TDM) Plan to mitigate any potential site impact and to encourage the use of non-auto modes of travel. These measures are described in the TIA and further elaborated in the Applicant's proffers. The TDM strategies include the following:

- Designate a Transportation Management Coordinator (TMC) to implement the TDM Plan.
- Provide pre-paid SmarTrip cards to new residents.
- Establish a shuttle bus service between the site and the Vienna Metrorail station.
- Provide secure short-term and long-term bicycle parking for site residents and employees.

Additionally, the Applicant has committed to contribute toward neighborhood traffic calming measures, should further study warrant their implementation on the surrounding neighborhood streets. The mitigation measures the Applicant has committed to will be sufficient to offset any potential site impact.

We trust that the responses provided in this memorandum address the comments on the subject TIA. If you have any questions or require additional information, please contact Brian Horan at 703.365.9262 or bjhoran@wellsandassociates.com.

Attachments: a/s

Attachment
444 Maple
Site Trip Generation Comparison

Scenario	Land Use Code	Amount	Units	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Average Daily Trips	Saturday Peak Hour In	Saturday Peak Hour Out	Saturday Peak Hour Total
Proposed Program (ITE 9th Edition)													
Apartment	220	160	Rooms	16	66	82	69	37	106	1,093	45	38	83
Internal allowance (5%/10%/15%)				*(1)*	*(2)*	*(3)*	*(3)*	*(2)*	*(5)*	*(133)*	*(7)*	*(6)*	*(13)*
Saturday Off-Peak Reduction (2% In, 0% Out)											*(1)*	*0*	*(1)*
Net External Trips				15	64	79	66	35	101	960	37	32	70
Specialty Retail	826	20,000	SF	36	38	74	24	30	54	886	160	147	307
Retail Subtotal				**36**	**38**	**74**	**24**	**30**	**54**	**886**	**160**	**147**	**307**
Internal allowance (5%/10%/15%)				*(2)*	*(1)*	*(3)*	*(2)*	*(3)*	*(5)*	*(133)*	*(6)*	*(7)*	*(13)*
Saturday Off-Peak Reduction (0% In, 2.2% Out)											*0*	*(3)*	*(3)*
Net External Trips				34	37	71	22	27	49	753	154	137	294
Pass-by Trips (35%)				(12)	(13)	(25)	(8)	(9)	(17)	(264)	(54)	(48)	(103)
Net New External Retail Trips				22	24	46	14	18	32	489	100	89	191
Net New Trips				37	88	125	80	53	133	1,449	137	121	261
Proposed Program (ITE 10th Edition)													
Mid-Rise Residential with 1st-Floor Commercial	231	160	DUs	13	35	48	41	17	58	550	75	63	138
Net New Trips				13	35	48	41	17	58	550	75	63	138
Difference (9th Edition minus 10th Edition)				24	53	77	39	36	75	899	62	58	123

Note(s):
(1) For LU code 231 (10th Edition) no Directional Distribution for Saturday is provided by ITE. For purposes of this analysis, the distribution used is for LU Code 220 (9th Edition)
(2) For LU code 220 (9th Edition) no Directional Distribution for Saturday is provided by ITE. For purposes of this analysis, the distribution used is for LU Code 230 Residential Condominium/Townhouse (9th Edition)
(3) For LU code 826 (9th Edition) no Saturday Peak Hour is provided by ITE. For purposes of this analysis, the Saturday Peak Hour of Generator for LU Code 820 Shopping Center (9th Edition) was used