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**Hamal Associates, Inc.**

Traffic and Transportation Consulting

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N.J. CERT. OF AUTH. NO. 24GA27922200

April 9, 2021

Ms. Frances Boardman  
Land Use Administrator  
Borough of Madison Planning Board  
Municipal Building  
50 Kings Road  
Madison, NJ 07940

Dear Ms. Boardman:

Re: Traffic Review #1  
Waseem Chaudhary – Applicant  
Proposed House of Worship  
120 Madison Avenue (NJ Rt. 124)  
Block 3101, Lot 21  
Borough of Madison, Morris Co., NJ  
Application No. P21-002

At the request of the Madison Planning Board, the firm of Hamal Associates, Inc. (HMA) has conducted a traffic review of the Traffic Impact Study report (dated March 12, 2021) prepared by Dynamic Traffic (DT) and the associated site plans (dated March 16, 2021) prepared by Dynamic Engineering (DE), for the above referenced project. As part of our services, we also reviewed or referenced the following reports and documents:

1. Application documents:
2. Architectural Plans prepared by SephAri Design, dated March 18, 2021; and
3. Topographic Survey Plan (dated March 19, 2021) prepared by Control Point Associates, Inc.

Supplementing the preceding, HMA performed a field inspection of the study area with photography.

The site is located, in the southwest quadrant of the intersection of Madison Avenue (NJ Rt. 124) and Vinal Place, at 120 Madison Avenue, in the R-3 Zone (Single Family Residential) of the Borough of Madison (Block 3101, Lot 21), Morris County. The property has one (1) access drive with Madison Avenue and two (2) drives along Vinal Place. The property is currently occupied by the Drew University Alumni/AE House (institutional building).

The application proposal is to demolish the existing building and close the three (3) drives with Madison Avenue and Vinal Place. It is proposed to construct a house of worship, totaling 14,323 sf, served by 37 on-site parking spaces. Two (2) full movement access drives are to be constructed, one each to Madison Avenue and Vinal Place.

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Based on our review, we have the following comments:

A. Dynamic Engineering (DE) Site Plan Review

1. The two (2) existing site drives on Vinal Place and one (1) on Madison Avenue will be removed and replaced by two (2), two-way full movement drives, one each to Madison Avenue and Vinal Place.
2. The two proposed site access drives are interconnected on-site through one circulation aisle that extends along the west and south sides of the house of worship. The circulation aisle is 24 feet wide and conforms with municipal Ordinance 195-25.15.G.
3. Perpendicular parking is proposed with hairpin striping. All parking spaces are 9' x 18'. The preceding conforms with municipal Ord. 195-25.15.F. The parking spaces are located along each side of the single circulation aisle proposed.
4. There are 37 parking spaces proposed, including 2 HC spaces. For places of worship, the municipal ordinance 195-35.A.3. requires one (1) parking space for each three (3) seats. Where the specific amount of seating is undetermined, then one (1) parking space shall be required for each 75 sf of assembly area. As there is no seating proposed, the 2,651 sf of assemblage area applies. Based on one space per 75 sf of assembly area, the site will require 35 parking spaces. The site plan conforms with this minimum requirement, as 37 spaces are proposed.
5. A 'Stop' sign (R1-1) and stop line preceded by a STOP pavement marking is proposed at each site drive egress. Are the pavement arrows shown along the circulation aisle on the Site Plan (Sheet 4) proposed to be provided?
6. DE should identify the sight distances at each access drive intersection with Madison Avenue and Vinal Place. The sight distances identified should be compared against accepted sight distance standards.
7. Vehicle circulation plans were provided (Sheets 16 & 17) for an SU-30 truck and a fire truck. HMA's review of the noted turning templates indicated that adequate circulation for these larger vehicles is provided through the site and at each access point. Has DE contacted Borough fire officials for their comments to the site plan circulation in relation to fire truck operations?

B. Dynamic Traffic Impact Study Report Review

1. The DT traffic study was prepared according to accepted traffic engineering procedures and methodologies.

2. The Applicant or his professionals should testify as to the proposed hours and days of use, activities proposed on-site, attendance at worship services, etc. Is a child day care proposed?
3. DT studied the Madison Avenue intersections with Vinal Place and the site drive, and the Vinal Place & site drive location. We concur with the study locations selected.
4. Existing traffic movement counts were taken on Friday, January 22, 2021, from 6-9 am and 11 am -2 pm, at Madison Avenue & Vinal Place. The day and times selected are suitable for the proposed use. The peak hours identified were 7:45-8:45 am and 1-2 pm midday.
5. Traffic volumes were affected by the COVID-19 pandemic and are atypically low at this time. To correct for this situation, DT obtained historical traffic data from NJDOT automatic traffic recorder (ATR) counts along Madison Avenue just south of Treadwell Avenue, in April 2018. DT grew the NJDOT ATR counts by NJDOT annual growth rates (1.5% per year) for 3 years to 2021 to establish traffic volumes along Madison Avenue representative of 'existing non-COVID-19 conditions.'

DT performed January 2021 ATR counts on Madison Avenue at the same location as the NJDOT ATR counts. Based on a comparison of the 2021 adjusted NJDOT non-COVID affected ATR peak hours to the DT COVID affected ATR peak hours (am & midday), adjustment factors of 1.95 and 1.27 were calculated for the respective am and midday peak hours to be applied to the DT ATR counts.

A comparison of report Fig. 2 (2021 DT Existing Volumes as counted) and Fig. 3 (2021 Adjusted DT Existing Volumes) indicated that the am peak hour was adjusted by a factor of 1.95, but the midday peak hour had an adjustment of 1.57, which is higher than the 1.27 factor noted in the report. We contacted DT on this difference and they responded that it was a typo in their spread sheet, which used 1.57 instead of 1.27. The 1.57 factor applied presents a more conservative (higher) volume adjustment. It is not requested that DT revise their figures.

HMA agrees with the methodology applied by DT, in comparing ATR counts performed at the same location on Madison Avenue in 2018 (adjusted to 2021) to 2021 existing ATR counts.

6. DT applied trip generation rates from the ITE publication, Trip Generation – 10<sup>th</sup> Edition, in developing peak hour traffic projections for the 14,323 sf house of worship project. This is the accepted source for performing this analysis. As presented in Table III, the weekday am and midday Friday peak hour trip generation is, respectively, 9 and 143 trips. These volumes are distributed between two access points on Madison Avenue and Vinal Place.

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HMA agrees with the peak hour trip generation calculations noted in Table III, except in the midday peak hour. Based on the ITE source, during this time period the inbound trips should be 69 inbound and 74 outbound trips. HMA contacted DT on the foregoing. DT provided us with a revised trip generation table and revised midday peak hour Build capacity analyses at the three study locations. The revised materials are acceptable.

As the ITE Land Use Code #562 – Mosque has only limited data based on only one reported study and the NJDOT does not provide any published trip rates for a mosque, DT utilized a similar use for calculation of peak hour trips. They applied Land Use Code #560 – Church for the weekday am peak hour of trip generation and the highest weekend midday peak hour, the latter applied to the mosque’s Friday midday peak hour. HMA finds this procedure acceptable.

- 7.a. The site generated peak hour trip distributions shown on Fig. 5 are reasonable and acceptable. Fig. 6 distributes the site generated peak hour trips. This figure was recalculated for the corrected midday trips in/out.
  - b. The adjusted existing 2021 peak hour traffic volumes, shown on Fig. 3, were expanded by the NJDOT annual background traffic growth rate of 1.5% per year for Madison Avenue. Fig. 4 identifies the 2023 No Build peak hour traffic volumes.
  - c. Fig. 7 represents the Build peak hour traffic volumes, which combine Fig. 4 – No Build Traffic Volumes and Fig. 5 – Total Site Generated Trips (w/revised midday).
8. Capacity analysis for unsignalized intersections were followed by DT according to the 2010 Highway Capacity Manual (HCM) and associated software. This is the accepted source for performing this analysis. Based on the analyses performed, we note the following:
- a. Madison Avenue (NJ Rt. 124) & Vinal Place

At this unsignalized intersection, under 2021 existing conditions (adjusted volumes), all critical intersection movements operate at a good Level of Service (LOS) ‘C’ or better, in each peak hour. For the 2023 No Build condition, no change in LOS is identified. Impacts are an increase in average vehicle delay of one (1) second or less. For the 2023 Build condition, no changes in LOS are experienced with similar average vehicle delays reported. HMA agrees with DT’s conclusion that no discernable impact will be experienced at this intersection due to the proposed house of worship.

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b. Madison Avenue & Site Driveway

This unsignalized T-intersection, in the 2023 Build condition, will operate at a good LOS 'D' or better in each peak hour. It is noted that the LOS 'D', in the midday peak hour for the site drive approach, was a LOS 'D' on the threshold of LOS 'C'.

c. Vinal Place & Site Driveway

This unsignalized T-intersection experiences extremely low traffic activity in either peak hour. In the 2023 Build condition, all critical traffic movements will function at a superior LOS 'A', in both peak hours.

9. Related to DT's comments on site access, circulation and parking, HMA had provided a detailed review of the preceding in the Site Plan Review section of this traffic review report. Consequently, we have not provided a separate site plan review related to the DT traffic report. We do note that, in the Parking section of the DT traffic report, they identify a proposed 2,851 sf assemblage area. The site and architectural plans both note it as 2,651 sf. Also, DT noted 38 spaces are required by ordinance, with 38 spaces proposed. HMA notes that 35 spaces are required (based on 2,651 sf) with 37 spaces proposed.
10. As this project is proposing a new access drive with Madison Avenue (NJ Rt. 124), a new highway access permit will be required. DT should note the status of the NJDOT highway access permit application.
11. HMA agrees with the Findings and Conclusions presented by DT for this project (with midday peak hour revisions).

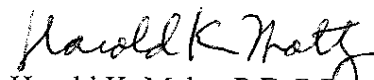
C. General Comments

1. All traffic related review comments by other Board professionals shall be addressed by DE and DT.

The foregoing represents our traffic review of the subject application. If you have any questions, please do not hesitate to contact us.

Very truly yours,

Hamal Associates, Inc.



Harold K. Maltz, P.E., P.P.

President