

June 26 2020

Lee D. Klein, PE, PTOE  
 Klein Traffic Consulting, LLC  
 156 Walker Road  
 West Orange, New Jersey 07052

Subject: Response to Comments  
 Proposed Delivery Station  
 1800 Lower Road  
 City of Linden, Union County, New Jersey

Dear Mr. Klein:

NV5 is in receipt of your May 1<sup>st</sup>, 2020 review letter addressed to Paul Ricci of Ricci Planning regarding the above referenced project and offers the following responses. For ease of reference, your original comment is provided below in *italics*, and NV5's response in regular text.

*Traffic Assessment Memorandum*

1. *The name of the author of this memorandum should be provided, along with the author's NJ professional engineer license number and/or any national certification(s) numbers.*

The information contained therewith has been reviewed by me, a professional engineer licensed in New Jersey. I will be present at the planning board hearings for the project to further address any comments you or the Board may have.

2. *The applicant provides Attachment B: Proposed Traffic Schedule, which is a summary of the trip generation of the proposed use for a 24-hour period of a typical weekday. The 10:00 AM peak hour generates greater than 100 peak hour trips. According to the ITE, Trip Generation, 10<sup>th</sup> Edition, a Fulfillment Center Warehouse or a Parcel Hub Warehouse use of 329,269 square feet would generate more than 100 peak hour trips during both the AM and the PM peak hours. Therefore, a traffic impact study may be required under the local Ordinance 29-10.7. Traffic Impact Statement, which requires a. Traffic Impact Statement report "for all proposed developments generating 100 or more peak hour trips during the morning and evening" and b. "The Traffic Impact Statement shall be prepared by a licensed professional engineer in the State of New Jersey who is also certified as a Professional Traffic Operations Engineer (PTOE), and shall identify all relevant sources of information used in the preparation of said statement...". The applicant shall address this issue.*

Attachment B of the April 28, 2020 memorandum represents the applicants anticipated site specific vehicular trip generation based on anticipated operations for the site given its planned size and location. This information is specific to the currently proposed end user, who makes a concerted effort to adjust employee arrival and departure times to avoid impacts during the typical AM and PM peak

hours. As attachment B indicates, the applicant intends to minimize peak hour trips associated with this site by scheduling its employees outside commuter peak hours.

- The applicant shall provide explanation of the operation of the proposed use. Attachment B shows 171 total employees consisting of 85 “Associates” and 86 “Drivers”. The total of 86 “Drivers” each entering once and exiting once total the 172 “Vans” trips. While the “Total” 24-hour trips are shown at 496 trips, 248 In, 248 Out. If each of the 171 employees enter once and exit once, that is 342 total trips. There is a total of 310 “Autos” trips in the typical 24-hour period. The applicant shall rectify this discrepancy between the number of employees and the number of trips per 24-hour period.*

The Autos column of Attachment B includes two types of employees – Associates and Drivers. Associates represent staff that remain in the building during their shift. Drivers arrive on site, pick up their packages and delivery vehicles, exit the site, make their deliveries, return to the site and exchange their delivery vehicles for personal vehicles which they use to exit the site. The apparent discrepancy identified above is the result of considering carpooling and other mass transit options for the arrival and departure of employees.

- The applicant shall address the scenario where the subject site is occupied and operated by a different entity than is proposed at this time. Another entity may have different operating hours, different shift changes, and different number of employees. The applicant shall provide a Trip Generation summary table of the AM, PM and Daily trips for a typical “Warehousing” use. The applicant shall address how trips from a typical Warehousing use would impact traffic operations at adjacent intersections.*

As previously discussed with your office, the ITE Trip Generation Manual, 10<sup>th</sup> Edition does not have a land use category that exactly matches the proposed facility. The closest ITE Land Use Category is LU Code 154, High Cube Transload & Short Term Storage, which is classified as providing “...a primary function of ... distribution of pallet loads ... for manufacturers, wholesalers, or retailers. They typically have little storage duration, high throughput, and are high-efficiency facilities.” (ITE Trip Generation Manual, 10<sup>th</sup> Edition, Volume 2, page 119).

The table on the following page indicates the ITE Trip Generation for the morning and evening peak hours for both the existing warehouse use on the site (LU Code 150) and a generic High Cube Transload & Short Term Storage facility of the same size.

Trip Generation Comparison

	Morning Peak Hour			Evening Peak Hour			Daily
	IN	OUT	TOTAL	IN	OUT	TOTAL	
Warehouse (326,269 sf LU Code 150)	43	13	55	17	45	62	568
High Cube Transload & Short Term Storage Facility (326,269 sf LU Code 154)	20	6	26	10	23	33	457
Net Change in Trips	-23	-7	-30	-7	-22	-29	-111



As the table above indicates, a generic High Cube Transload & Short Term Storage facility generates approximately ½ the trips of a traditional warehouse use. Therefore re-occupation of the building by a subsequent 'typical' High Cube Transload & Short Term Storage Facility user would result in similar or slightly improved traffic conditions to reoccupation of the building as a warehouse use as it exists prior to this application.

- 5. The applicant has not studied the traffic turning movement conditions at any adjacent intersections. Instead, the applicant has provided Annual Average Daily Traffic (AADT) volumes for Route 1&9 and Lower Road. However, the applicant has not provided the year of this data. The applicant shall provide the year of the AADT volumes provided in the memorandum. The applicant shall indicate if these AADT volumes include the daily traffic from other recently approved developments in the area.*

The attached data provided by Klein Consulting (available from NJDOT) indicates an AADT of 5,654 vehicles in April of 2018 on Lower Road. The data quoted in the April NV5/Calyx memorandum indicates an AADT of 6,217 vehicles, which was collected by NJDOT in July of 2015. This indicates that traffic volumes have reduced on Lower Road in recent years. Nevertheless, as discussed in the response to item 4 above, since the proposed use of the existing building results in less peak hour trips than reoccupation of the building as a warehouse use, changes in traffic patterns are not anticipated.

- 6. In the Preliminary Traffic Review section of the Traffic Assessment, the applicant characterizes "the surrounding street network experiences moderate delays throughout the day at various locations. The intersections of US Route 1&9/Avenue C and US Route 1&9/E Grand Avenue experience moderate congestion during both the AM and PM peak hours. Current AADTs on the area roadways indicate that space capacity is available to accommodate facility traffic." The applicant shall provide a basis for this statement. The applicant shall indicate the relationship between the AADT volumes and the peak hour traffic volumes. The applicant shall indicate if they have factored in the percentage of heavy vehicles to formulate their statement. The applicant shall indicate if the impact of the AADT of other approved developments in the area have been included in their statement.*

The statement quoted above regarding moderate delays and moderate congestion was based on a qualitative review of the surrounding roadway network using readily available resources such as typical traffic on Google Maps. As indicated in the response to comment 4 above, the proposed use of the site will generate less peak hour trips than reoccupation of the site as a warehouse use. Changes in traffic operations in the area are not anticipated due to the proposed project.

- 7. The applicant shall provide a trip generation comparison summary table of the existing/previous use of the subject site with the proposed use to show the change in the number of peak hour and daily trips to and from the subject site. The change in trip generation may provide a better understanding of the potential impact on traffic operations at adjacent intersections based on the change of use at this site.*



Please refer to the response to comment 4 above for the requested information.

8. *The applicant indicates that Barnett Street west of E. Lincoln Avenue is restricted to trucks over 4 tons. The applicant shall provide a plan on how they will restrict their own truck drivers from using Barnett Street west of E. Lincoln Avenue and how they will inform truck drivers about this heavy vehicle restriction.*

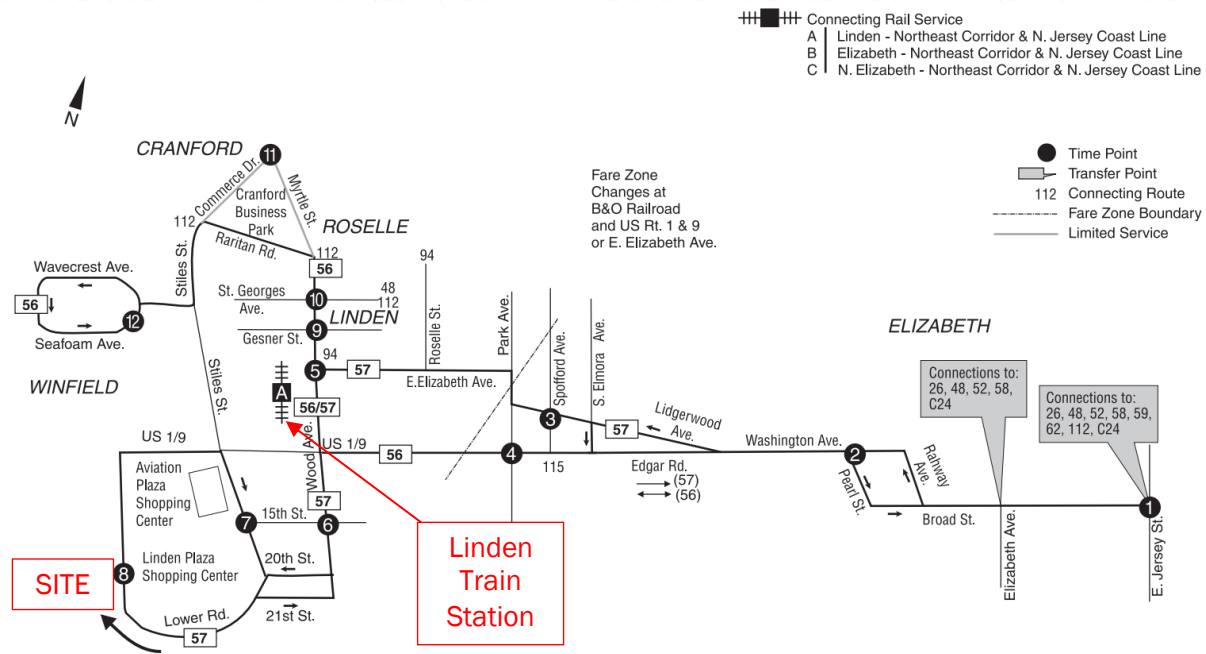
The applicant agrees to notify its truck drivers that all vehicles over 4 tons must use Avenue C to access the site and enforce this directive through its service contracts with the drivers. This will be included in dispatch and routing information as appropriate.

9. *The applicant shall indicate if there are existing mass transit options to provide alternatives to accessing the site via personal automobile. The applicant may consider providing shuttle bus service to connect the site to the NJ Transit bus service as well as local services/attractions and possibly NJ Transit rail service. This may reduce the amount of passenger vehicles that would be accessing the site.*

The closest bus stop to the site is located at the corner of Avenue C and Lower Road, immediately adjacent to the site. This stop is served by the New Jersey Transit #57 bus route. This route provides a direct connection to the Linden Train Station.

10. *The applicant shall provide an exhibit showing the available NJ Transit bus routes in the area. The applicant shall provide a plan to encourage mass transit usage by the tenants of the site. The applicant shall provide testimony regarding the potential maximum population of employees, particularly at shift changes. The applicant shall notify NJ Transit of the potential for new ridership to and from this site.*

As indicated in the response to comment #9 above, the #57 bus route provides direct access between the site and the Linden Train Station. The annotated excerpt from the NJ Transit #56/57 Bus Schedule, shown below, indicates the available mass transit options for the site.



11. The applicant indicates the anticipated routing of trucks to/from the site and Route 1&9 will be via Avenue C. The applicant shall develop a series of directional signs and proposed locations of these signs in a directional/destination signing plan to guide truckers and visitors to the proposed site and back to the truck routes.

While the applicant is willing to work with the City regarding the installation of any requested signage, the proposed site is anticipated to receive a total of 14 SU-30 or smaller size trucks per day to the site, which will be regular drivers controlled by a dispatch center. Furthermore, since the site is not anticipated to be open to the general public, we believe wayfinding signage from US Route 1&9 to the site is not necessary.

Please note that the *Site Circulation / Parking* comments provided will be addressed by the project site engineer under separate cover. I trust that this information satisfactorily addresses your comments on the application discussed herewith, however feel free to contact me with any additional comments or questions you may have. I will also be present at the planning board hearings to address any further concerns your office or the board may have.

Sincerely,  
NV5, Inc.

Joseph A. Fishinger, Jr., PE, PP, PTOE  
 Director, Traffic Engineering  
 New Jersey PE# 46134

