

January 28, 2019

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Subject: **Traffic Impact Assessment**
Dollar General – Piner Road
Wilmington, NC

Dear Mr. Royal:

This letter provides an assessment of the traffic impacts associated with the proposed Dollar General store to be located along Piner Road west of the Myrtle Grove Middle School in Wilmington, North Carolina. The plan proposes to redevelop the parcel from its existing use of an office / golf training facility to a Dollar General store with the potential for 3 single family homes. Access to the existing site is via one full movement driveway along Piner Road. The proposed redevelopment is expected to maintain the existing site access along Piner Road.

Existing Conditions

The property is currently developed with an office / golf training facility with a building approximately 1,350 s.f. in size. While in operation, the existing office / golf training facility has not experienced significant issue with the current driveway. The adjacent school site driveway currently has a designated left-turn lane that has a storage that extends past the existing driveway for the proposed site.

Piner Road is a three-lane road in front of the proposed site and has a posted speed limit of 45 miles per hour (mph) with a school speed limit of 35 mph on school days between 7:45 – 8:45 AM and between 2:45-3:45 PM. Piner Road serves primarily residential development with a school and a church to the east of the proposed site location. West of the proposed site location, Piner Road provides access to retail development and serves as the westbound approach to the S College Road and Carolina Beach Road intersection commonly referred to as “Monkey Junction.”

In 2017 Piner Road had an average annual daily traffic volume of 18,000 vehicles per day at a location west of the proposed site, according to data published by the North Carolina Department of Transportation (NCDOT). Based on turning movement counts taken by Burns Service Inc. in December of 2017 at the eastern site access of Myrtle Grove Middle School, and assuming that the peak hour volume is 10% of the average daily traffic, the AADT in front of the site was approximately 15,300 vpd.

Trip Generation

The proposed development is assumed to consist of an approximate 9,100 square foot (s.f.) Dollar General store. The rear portion of the property is proposed to be rezoned as single family commercial and support 3 homes. The residential units would have access via the Dollar General site driveway. Average weekday daily, AM peak hour, and PM peak hour trips for the proposed development were estimated using methodology contained within the ITE *Trip Generation Manual*, 10th Edition. Table 1 provides a summary of the trip generation potential for the site.

Table 1: Proposed Site Trip Generation Summary

Land Use (ITE Code)	Intensity	Daily Traffic (vpd)	AM Peak Hour Trips (vph)		PM Peak Hour Trips (vph)	
			Enter	Exit	Enter	Exit
Variety Store (Dollar General) (814)	9,100 s.f.	580	20	21	34	34
Single Family Detached Housing (210)	3 Homes	28	2	5	3	1
Total		608	22	26	37	35

It is estimated that the proposed development will generate approximately 608 total site trips on the roadway network during a typical 24-hour weekday period. Of the daily traffic volume, it is anticipated that 48 trips (22 entering and 26 exiting) will occur during the AM peak hour and 72 (37 entering and 35 exiting) will occur during the PM peak hour. The anticipated trip generation is below the City’s threshold of 100 peak hour trips to trigger a traffic study.

Per the ITE *Trip Generation Manual*, 10th Edition, the AM peak hour of the store begins at 11:30 AM and the PM peak hour of the store begins at 4:45 PM. The neighboring site, the Myrtle Grove Middle School has office hours between 8:00 AM and 4:00 PM and students are in class between 8:25 AM and 3:30 PM. The peak hours of the proposed site and the Myrtle Grove Middle School are not expected to overlap.

Trip Distribution

There are several similar retail uses to the west along College Road and at the Monkey Junction intersection. Because of the location of these similar uses, it is expected that the majority of traffic that will be generated by this development would originate in the neighborhoods along Piner Road to the east and south of the Monkey Junction intersection. These trips would use Piner Road to access the development.

This study estimates that approximately 65% of the retail trips will be distributed to the east of the site along Piner Road, which is 395 daily trips, 31 AM peak hour trips, and 47 PM peak hour trips. This peak hour trip generation approximately 1 trip every 2 minutes in the AM peak hour and less than 1 trip per minute in the PM peak hour.

On a weekday, the proposed development would account for approximately 2% of total traffic on Piner Road east of the site and approximately 1% of the total traffic on Piner Road west of the site.

Since traffic volumes are higher at the Monkey Junction intersection, the site trips are expected to account for a much smaller percentage of the traffic at this intersection. Any additional trips at the Monkey Junction intersection would be insignificant and not noticeable to vehicles currently using the intersection.

Findings and Summary

The proposed Dollar General store and 3 single family homes is not expected to have a significant impact on traffic conditions along surrounding roadways. This study considers the trip generation of the store alone, and does not account for the trip potential of the existing use (office/golf facility). The development is expected to account for approximately 2% of total traffic on Piner Road east of the site and approximately 1% of the total traffic on Piner Road west of the site.

The peak traffic times of the Dollar General are not expected to overlap with the peak traffic times of the adjacent Myrtle Grove Middle School, which minimizes potential for traffic congestion. There is not expected to be a conflict with drivers turning left into the store and school from the existing left-turn lane.

Based on the findings of this study, proposed Dollar General development will have minimal impact on the surrounding roadway network and will have adequate site access. If you should have any questions, please feel free to contact me at (919) 872-5115.

Sincerely,



Rynal Stephenson, P.E.
Regional Manager
Ramey Kemp & Associates, Inc.

1-28-19

NC Corporate License # C-0910