

APPENDIX 2



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Memo

To: Mr. William M. Hoblock, Mr. Paul Fleming

From: Tom Johnson, P.E., PTOE, Alanna Moran, I.E.

Date: June 7, 2007

Re: Trip Generation Comparison

Project: Hudson Hills Residential Development, Town of Brunswick, CME Project No. 04-142

As requested, CME has completed a qualitative assessment of the Smaller Plan for the proposed *Hudson Hills* residential development in the Town of Brunswick. The Current Plan proposed the construction of 668 apartment units with a single access to Route 7 via Betts Road. The Smaller Plan proposes the construction of 250 apartment units and two Babe Ruth baseball fields with a single access to Route 7 via Betts Road. Table 1 shows the trip generation comparison for the proposed development. It is noted that trips associated with the Babe Ruth baseball fields are seasonal and will only be experienced during the warmer months of the year (mid April through mid October).

Table 1 – Trip Generation Comparison

Development Plan	Size	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Current Plan							
Residential	668 Units	66	265	331	250	135	385
Smaller Plan							
Residential	250 Units	25	101	126	101	54	155
Babe Ruth	2 fields	0	0	0	79	10	89
Subtotal		25	101	126	180	64	244
Traffic Change							
During baseball season		-41	-164	-205	-70	-71	-141
Outside baseball season		-41	-164	-205	-149	-81	-230

* Trip generation estimates based upon ITE data and projections for player, coach, and spectator attendance at baseball games.

Table 1 shows that the Smaller Plan is expected to generate about 200 fewer trips than the Current Plan during the AM peak hour and 140 fewer trips during the PM peak hour during

baseball season. When the fields are not in use the Smaller Plan will generate about 125 trips during the AM peak hour and 155 trips during the PM peak hour; a reduction of about 200 trips during the AM peak hour and 230 trips during the PM peak hour. This number of trips corresponds to the completion of phase I of the Current Plan. It is noted that the peak trip generation for a residential development occurs during the weekday AM and PM peak commuter periods. Baseball games occur during off-peak times typically after the PM peak hour and on weekends.

It is noted that the Smaller Plan has reduced the project size from 668 units to 250 units and 2 seasonal baseball fields therefore the traffic impacts at the Route 7/15th Street intersection as a result of the project are significantly reduced. Development of the Smaller Plan will add less than a total of 100 vehicles per hour (vph) on an approach at the intersection. NYSDOT guidance indicates that adding less than 100 vph to an approach will have minimal traffic impacts; therefore, this project will have only minimal traffic impacts at the Route 7/15th Street intersection.

Levels of service analyses conducted for phases I, II and III of the Current Plan (668 total units) concluded that a traffic signal should be installed at the Route 7/Betts Road intersection with completion of phase III. However, since trips associated with *Hudson Hills* are reduced by 40% to 60% with development of the Smaller Plan, a level of service analysis was completed to determine whether the traffic signal is still needed. The level of service analysis summarized in Table 2 indicates that the Route 7/Betts Road intersection will operate adequately with Stop control on the Betts Road approach both during and outside of baseball season. No improvements are needed with the Smaller Plan; construction of 250 apartment units and 2 baseball fields.

Table 2 – Unsignalized Level of Service Summary

NY Route 7/Betts Road		AM Peak Hour		PM Peak Hour	
		No-Build	Build	No-Build	Build
During baseball season					
NYS Route 7 EB	L	A (9.3)	A (9.4)	A (9.0)	B (10.1)
Betts Rd SB	LR	C (15.3)	C (23.7)	C (20.2)	D (31.7)
Outside baseball season					
NYS Route 7 EB	L	A (9.3)	A (9.4)	A (9.0)	A (9.6)
Betts Rd SB	LR	C (15.3)	C (23.7)	C (20.2)	C (24.8)

Key: NB, SB, EB, WB = Northbound, Southbound, Eastbound, Westbound intersection approaches.
 L, T, R = Left-turn, Through, and/or Right-turn movements.
 X (Y.Y) = Level of Service (Delay, seconds per vehicle).

The anticipated 2010 Build traffic volumes were compared to the traffic volume criteria for the Peak Hour Volume traffic signal warrant. The comparison shows that the traffic volumes marginally satisfy the volume thresholds during the AM peak hour and do not satisfy the volume thresholds during the PM peak hour. Based upon the level of service analysis and the Peak Hour Volume signal warrant analysis, installation of a traffic signal is not recommended at the Route 7/Betts Road intersection with construction of the Smaller Plan. It is noted that NYSDOT authorization is required to install a traffic signal on a state road. This typically encompasses a full signal warrants analyses with hourly traffic volumes and satisfaction of the 8-hour traffic volume warrants. The traffic volumes expected on the Betts Road approach will not satisfy the 8-hour traffic volume warrants thresholds therefore a traffic signal is not warranted.