TECHNICAL MEMORANDUM

To: Mr. Maxwell Fisher – Masterplan Consultants

CC: Tim McEneny – NL Group

From: Steve E. Stoner, P.E., PTOE – Pacheco Koch

Date: January 7, 2016

RE: Parking Study for Hotel Lumen (PK No. 3761-15.453)

INTRODUCTION

The services of Pacheco Koch, LLC were retained by Masterplan on behalf of the Owner to assess the parking needs for Hotel Lumen – a high-end, boutique hotel with restaurant (The Front Room) and roof deck located at 6101 Hillcrest Avenue in University Park, Texas. The property is zoned PD 22 and GR; a request to create a new Planned Development District is being requested. This analysis is being prepared at the request of the City of University Park to evaluate the parking needs of the property.

Pacheco Koch is a Texas-based consulting firm providing licensed professional engineers skilled in traffic/transportation engineering and parking analyses.

PROJECT DESCRIPTION

Hotel Lumen provides 93 guest rooms. The restaurant, *The Front Room*, is 4,481 square feet including an 885-square foot covered patio. The existing roof deck is 1,700 square feet in surface area and is uncovered – a new cover over an 1,120-square foot portion of roof the roof deck is currently proposed. The default parking requirement (i.e., base code) for these uses is summarized in **Table 1**.

Table 1. Base Code Parking Requirement
(As shown on Site Plan)

Land Use	Amount	Rate	Spaces Required
Hotel	93 Rooms	1 spaces per Room	93
Restaurant, including outdoor dining	4,481 SF	1 space per 100 SF	45
Rooftop Reception Area (Covered Reception Area)	1,700 SF (1,120 SF) [capacity: 120 standing, 64 seated]	1 space per 3 seats	40
TOTAL	**--**	**--**	**178**

Guest/patron parking for the hotel is by valet service only. The property currently provides 96 marked parking spaces, including: 14 tandem spaces, 5 spaces with access from alley, and 16 spaces (located partially in public right-of-way) with access from Binkley Avenue. A summary of the parking supply is provided in Table 2.

Table 2. Existing Parking Supply Summary (Marked Spaces)
(As shown on Site Plan)

Location	Spaces Provided
Marked Spaces Internal to Site	75
Marked Spaces Accessed from Alley	5
SUBTOTAL (On Site)	**80**
Marked Spaces Access from Binkley Avenue (adjacent to site but partially located in public right-of-way)	16
TOTAL	**96**

NOTE: Since all on-site parking is by valet only, valet operators are able to effectively park several additional vehicles within the site in areas not specifically marked as parking spaces.

PARKING DEMAND

Parking demand for a property is a function of the land use(s), site-specific characteristics, and other local conditions. For a multi-use property, the marking demand is a cumulative total of all uses concurrently. Parking demand can be measured directly (i.e., by on site counts) and/or projected based upon appropriate published data.

Parking demand for an individual use varies by time of day, day of week, and in some cases, seasonally. However, the peak parking demand on which the parking supply is based may occur only at a specific hour on a particular day. Several

efficiencies occur when a property is mixed-use with a shared parking supply. First, the parking demand for each individual and use often does not coincide, so the cumulative parking demand for the site is not the sum of all the individual peaks but rather is a combination of various partial peaks. Additionally, for mixed use developments, the potential exists for multi-purpose trips, whereby one parked vehicle may accommodate the parking of more than one land use simultaneously. The direct application of most local codes often do not recognize these efficiencies.

The Institute of Transportation Engineers (ITE) *Parking Generation* manual (4th Edition) does provide estimated peak parking demand rates for a hotel use of 0.89 and 1.20 parked vehicles per occupied room for a weekday and Saturday, respectively. ITE does explain that a hotel use (and, therefore, the published parking demand rates) may include such facilities as: restaurants, cocktail lounges, meeting and banquet rooms or convention facilities, limited recreation facilities (e.g., pool, fitness room), and other retail and service shops. However, it is not possible to parse the data by exclude those that do not. So, given all the variables, it is difficult to say that these ratios are definitive representative of all hotels.

Another widely varied factor is the percentage of traffic by alternate travel mode, such as transit, taxis, shuttles, etc. These factors are very site specific and also cannot be categorically estimated. At Hotel Lumen, the on-site manager stated that the approximately 60% of hotel guests arrive by taxi and 5% by hotel shuttle, therefore only 35% typically self-drive. The estimated average self-driving percentage for hotel events is 50% for hotel events and 60% for restaurant patrons. So, parking demand cannot be easily calculated using formulas; the most definitive method to measure of parking demand is based upon on-site observations.

Pacheco Koch conducted on-site observations on Thursday, December 3, 2015 (lunch period and evening); Friday, December 18, 2015 (lunch period) and January 1, 2016 (evening period); and Saturday, December 19, 2015 (lunch period and evening with event). Hotel occupancy on the evening of December 3rd was 71%, 94% on December 18th, and 35% on January 1st. Restaurant occupancy was typical on all days. A summary of the parking counts is provided in Table 3.

Table 3. Parking Accumulation Counts at Hotel Lumen

Time of Count	Number of Parked Vehicles On Site*
Thursday, December 3, 2015	
11:30 AM	46
12:00 PM	45
12:30 PM	43
7:30 PM	60
9:30 PM	57
Friday, December 18, 2015	
11:30 AM	46
12:15 PM	56
12:45 PM	55
Friday, January 1, 2016	
8:15 PM	38
9:15 PM	42
10:15 PM	43
Saturday, December 19, 2015	
11:00 AM	69
11:45 AM	65
12:30 PM	62
6:50 PM	69
7:30 PM	87**
8:30 PM	100**
9:00 PM	100**

* Includes all 96 spaces referenced in Table 2, plus additional, unmarked, on-site parking areas used by valet operators.

** Includes parking for an on-site event for 80 people (started at 7:00 PM).

While this is only a limited sample size, it is indicative of the parking needs on a typical day.

The hotel valet operation does keep records of the number of vehicles valet parked per day and by activity. So, between January 1, 2015 and July 31, 2015, the records indicate the hotel had event parking on 18 occasions. The number of parked vehicles (for events) ranges from 4 to 36 vehicles with an average of 17.3 vehicles per event. Table 4 summarizes those records.

Table 4. Hotel Lumen's Valet Parking Accumulation Counts for Special Events
(January 1-July 31, 2014)

Event Date	Number of Event-Only Vehicles Valet Parked*
January 24, 2015	18 vehicles
February 2, 2015	12 vehicles
February 10, 2015	19 vehicles
February 12, 2015	29 vehicles
February 21,2015	14 vehicles
March 3, 2015	5 vehicles
March 20, 2015	11 vehicles
April 6, 2015	17 vehicles
April 10, 2015	12 vehicles
April 11, 2015	4 vehicles
April 22, 2015	29 vehicles
April 29, 2015	17 vehicles
May 16, 2015	30 vehicles
June 3, 2015	20 vehicles
June 5, 2015	36 vehicles
June 22, 2015	11 vehicles
June 23, 2015	12 vehicles
June 24, 2015	16 vehicles
Maximum	***36 vehicles***
Average	***17.3 vehicles***

* Does not include valet-parked vehicles for hotel guest and restaurant patrons.

NOTE: Event guests are likely to have an average auto occupancy of greater than one person per vehicle.

CONCLUSION

Day-to-day parking demand for the site is generated by the hotel and restaurant uses. Additional parking demand is generated on occasion by special events held on site. The on-site, valet-only parking supply can accommodate the parking demand for day-to-day conditions and for many, small and medium events. For large events (e.g., greater than 80± persons), parking demand may exceed the available on-site parking capacity.

It is recommended that, for large events, Hotel Lumen arrange (in advance) for off-site overflow parking to be used by valet operators. Otherwise, for day-to-day activity and small and medium events, the existing, on-site, parking supply is considered to be sufficient.

END

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