



ARLINGTON DOWNS PARKING ASSESSMENT

DATE: September 2, 2015
Updated October 23, 2015

TO: Jeffrey Funke, Funke Architects
Vince Bertucci, ChiArc

FROM: Peter Reinhofer, P.E.

RE: Arlington Downs Shared Parking Study
Arlington Heights, Illinois

V3 Companies has prepared this parking assessment to present the conclusions of the parking demand and shared parking analysis and to determine the designated number of parking spaces needed for the mixed-use Arlington Downs development. Arlington Downs, located at the northeast corner of Rohlwing Road and Euclid Avenue in Arlington Heights, Illinois, is a mixed use project that will include residential, restaurant, hotel, retail, and entertainment land uses.

The purpose of this parking analysis is to confirm that the number of proposed parking spaces for the individual zones and the overall Arlington Downs development will be adequate to serve the demand of the site. The study will calculate the number of parking spaces required utilizing the Village of Arlington Heights municipal code parking rates, the approved Planned Unit Development (PUD) parking rates, and a shared parking analysis based on the parking characteristics of the proposed land use plan.

Arlington Downs Planned Unit Development

The site is part of a proposed redevelopment plan of the previous Arlington Sheraton hotel. A PUD was originally approved in 2012 with subsequent modifications to the land use plan, which proposed five development zones. The updated redevelopment will also consist of five development zones.

Zone A consists of the previous hotel that has been redeveloped into 214 apartment units, named Arlington One, which is already completed and partially occupied. The future development of Zone A will also include an 11,000 square foot day care facility and 4,500 square feet of restaurant space. Zone A currently has a 313-space parking garage in addition to 24 surface parking spaces in front of the apartment building and 32 surface parking spaces



east of the apartment building. The parking lot east of the apartment building will be expanded from 32 spaces to 71 spaces, for a total of 408 parking spaces on Zone A. Ownership has indicated that the apartment building is currently 67 percent leased and 62 percent occupied. In addition, the number of parking spaces occupied by tenants is approximately 80 spaces.

Zone B, which is currently permitted, consists of a 161-room hotel with conference space to be constructed at the southeast corner of Rohlwing Road and Salt Creek Lane. In addition, this Zone includes the re-opening of the existing water park and the development of the attached family entertainment center. Zone B includes the construction of 414 surface parking spaces located between the proposed hotel and the waterpark.

Zone C will include the future development of a second residential tower with 442 apartment units. It is our understanding that the required parking for the second residential tower will be fully accommodated within Zone C as part of the site design, likely with underground parking or a parking garage. The parking required is estimated to be 641 parking spaces based on the PUD approved parking rate of 1.45 parking spaces per unit.

Zone D of the development includes the construction of five buildings which will include a mix of retail, restaurant, and medical office uses. This Zone includes the construction of 456 surface parking spaces. Zone E consists of one retail building with retail and restaurant land uses and 109 surface parking spaces.

Overall, the proposed PUD includes a total of 2,028 parking spaces. Exhibit A illustrates the overall proposed site plan for Arlington Downs and Table 1 provides a summary of the various land uses summarized by Zone.



Table 1 – Proposed Land Use Plan By Zone

Zone	Land Use	Size
A	Apartment	214 units
	Child Care	11,000 sf
	High Turnover (Sit-Down)	4,500 sf
B	Water Park	55,000 sf
	Water Park - Family Entertainment	9,000 sf
	Hotel	161 rooms
	Hotel - Conference Center	4,600 sf
C	Apartment	442 units
D	D1 - Medical Office	15,000 sf
	D2 - Shopping Center	6,290 sf
	D2 - Shopping Center	5,710 sf
	D3 - High Turnover (Sit-Down)	5,510 sf
	D3 - High Turnover (Sit-Down) - Outdoor Seating	1,500 sf
	D3 - Shopping Center	2,560 sf
	D3 - Shopping Center	3,930 sf
	D4 - High Turnover (Sit-Down)	4,500 sf
	D4 - High Turnover (Sit-Down) - Outdoor Seating	1,500 sf
	D5 - High Turnover (Sit-Down)	4,500 sf
	D5 - High Turnover (Sit-Down) - Outdoor Seating	1,500 sf
E	Fast Food without Drive Through Window	2,570 sf
	Fast Food without Drive Through Window - Outdoor Seating	1,500 sf
	Shopping Center	2,575 sf
	Salon	1,610 sf
	High Turnover (Sit-Down)	2,575 sf
	High Turnover (Sit-Down) - Outdoor Seating	200 sf
	Fast Food with Drive Through Window	2,670 sf
	Fast Food with Drive Through Window - Outdoor Seating	200 sf

Parking Generation Analysis

A parking generation analysis is performed to estimate the parking demand during peak times for a site and determine if the number of proposed parking spaces is adequate to serve that peak demand. Typically, required parking for a site is determined using parking ratios for various land uses found in a municipal code.

The original PUD Shared Parking Study, dated May 25, 2012, developed site specific parking demand rates for the various land uses. The parking rates established in that parking study, in



addition to subsequent studies with modified land use plans, were approved by the Village of Arlington Heights.

An additional publication with parking generation information is the Urban Land Institute's (ULI) Shared Parking, 2nd Edition Manual. This manual primarily focuses on the concept of shared parking, which accounts for how parking demand fluctuates for individual land uses throughout a typical day.

Parking Requirements per Village of Arlington Heights Municipal Code

The Village of Arlington Heights Municipal Code, Chapter 28-Section 11.4, provides a schedule of off-street parking ratios to determine the required number of parking spaces corresponding to its specified land use. Table 2 provides a breakdown of the Village's parking rates and required parking spaces for the Arlington Downs development by zone.

The Village Code provides a parking rate for restaurants based on the seating area of the restaurant. Since final interior plans are not yet developed for the various restaurants, it is assumed that 50 percent of the interior restaurant floor area will be seating area. The outdoor area is considered 100 percent as seating area. The water park and family entertainment areas are classified as recreational areas which require parking spaces equal to 30 percent of the occupancy.

Table 2 – Required Parking Spaces per Arlington Heights Village Code

Zone	Land Use	Independent Variable	Parking Supply Ratio	Required Parking Spaces	Required Parking By Zone	Parking Provided	Surplus/ Deficit
A	Apartment	214 units	2 spaces per dwelling unit	428	501	408	-93
	Child Care	15 employee	3 spaces per 2 employees	23			
	Restaurant	4,500 sf	1 space per 45 SF of seating area*	50			
B	Hotel	161 rooms	1 space per room	161	599	414	-185
	Hotel - Conference Center	300 people	30% occupancy	90			
	Water Park	1,000 people	30% occupancy	300			
	Water Park - Family Entertainment	160 people	30% occupancy	48			
C	Apartment	442 units	2 spaces per dwelling unit	884	884	641	-243
D	Medical Office	15,000 sf	1 space per 200 SF	75	398	456	58
	Restaurant	14,510 sf	1 space per 45 SF of seating area*	161			
	Restaurant - Outdoor Seating	4,500 sf	1 space per 45 SF of seating area	100			
	Shopping Center	18,490 sf	1 space per 300 SF	62			
E	Restaurant	7,815 sf	1 space per 45 SF of seating area*	87	144	109	-35
	Restaurant - Outdoor Seating	1,900 sf	1 space per 45 SF of seating area	42			
	Salon	1,610 sf	1 space per 250 SF	6			
	Shopping Center	2,575 sf	1 space per 300 SF	9			
				TOTAL REQUIRED SPACES	2,526	2,028	-498

*Seating area estimated as 50% of gross area

As Table 2 illustrates, Arlington Downs would require 2,526 parking spaces based on the Village Code. Based on the site providing 2,028 parking spaces, there would be a parking deficit of 498 parking spaces for the overall site. In addition, each of the individual zones would have a deficit in parking with the exception of Zone D, which provides a surplus of 58 parking spaces.



Parking Requirements per Approved PUD Parking Rates

The original PUD Shared Parking Study, dated May 25, 2012, developed site specific parking rates based on actual parking demand for the various land uses. As stated in the report, data on parking demand for similar individual land uses was obtained from the Institute of Transportation Engineers (ITE) Parking Generation, 4th Edition manual, the Urban Land Institute's Shared Parking, 2nd Edition report, and other parking studies. Table 3 illustrates the various parking demand rates, compares to the Village Code parking requirement, and provides the approved PUD parking rate. The approved PUD rates are separated by weekday demand and weekend demand.

Table 3 – Approved PUD Parking Rates from 2012 Shared Parking Study

Land Use	Unit	Village Code	ITE	ULI	Other Data	Ratio Used
Apartment	Dwelling	2.0/unit	1.23 (1.13)	1.65 (1.65)	1.3/unit ⁽¹⁾	1.45/unit
Hotel	Guest room	1.0/room	0.6 (0.66)	1.25 (1.08)	-na-	1.0/room
Conference	Occupancy	30%	-na-	-na-	-na-	30%
Retail	1,000 sq. ft.	3.33	3.76 (4.67)	3.6 (4.0)	-na-	3.6 (4.0)
Office	1,000 sq. ft.	3.33	2.84 (-na-)	3.8(0.38)	-na-	3.33 (.38)
Childcare	Child/Employee	1.5 per employee	.24(-na-)/child	-na-	-na-	.24(0)/child
Bank	1,000 sq. ft	3.33	4.0 (3.5)	4.6 (4.6)	-na-	4.0 (3.5)
Medical Office	1,000 sq. ft	5.0	3.2 (-na-)	4.5 (4.5)	4.5 ⁽²⁾	4.5 (4.5)
Water Park	Occupancy	30%	-na-	-na-	25% ⁽³⁾	25%
Restaurant	1,000 sq. ft.	11.1	10.6 (16.4)	10.5 (15.0)	-na-	10.6 (15.0)
Health Club	1,000 sq. ft.	4.0	5.87 (2.89)	7.0 (5.75)	-na-	6.0 (4.0)

Note– Weekday Demand (Weekend Demand)

- (1) Auto Ownership for Rental Units in Arlington Heights – US Census.
- (2) Walker Parking Study of Medical/Dental Office Buildings
- (3) Water Park Operator Experience

Utilizing the approved PUD parking rates, Table 4 provides the parking demand for the Arlington Downs development by Zone and for the overall development.



Table 4 – Required Parking Spaces per Approved PUD Rates

Zone	Land Use	Independent Variable	Required PUD Parking - Weekday		Required PUD Parking - Weekend		Parking Provided	Surplus/ Deficit
			By Use	By Zone	By Use	By Zone		
A	Apartment	214 units	310	380	310	378	408	28
	Medical Office	90 children	22		0			
	Restaurant	4,500 sf	48		68			
B	Hotel	161 rooms	161	549	161	549	414	-135
	Hotel - Conference Center	300 people	90		90			
	Water Park	1,000 people	250		250			
	Water Park - Family Entertainment	160 people	48		48			
C	Apartment	442 units	641	641	641	641	641	0
D	Medical Office	15,000 sf	68	337	68	428	456	28
	Restaurant	14,510 sf	154		218			
	Restaurant - Outdoor Seating	4,500 sf	48		68			
	Shopping Center	18,490 sf	67		74			
E	Restaurant	7,815 sf	83	118	118	163	109	-54
	Restaurant - Outdoor Seating	1,900 sf	20		29			
	Salon	1,610 sf	6		6			
	Shopping Center	2,575 sf	9		10			
TOTAL REQUIRED PARKING			2,025			2,159	2,028	-131

As Table 4 illustrates, the parking demand at Arlington Downs would be 2,025 parking spaces during the week and 2,159 during the weekend. Based on the overall site providing 2,028 parking spaces, there would be a parking surplus of 3 spaces during the week and a parking deficit of 131 parking spaces during the weekend. Zones A, C, and D meet or exceed the PUD required parking while Zones B and E would not meet the PUD required parking.

Parking Requirements per ULI's Shared Parking, 2nd Edition Manual

Shared parking is the concept of using a parking space to serve two or more land uses without conflict. Conventional parking regulations typically require that each development, or land use type, provide enough parking to serve its own peak demand, leaving unused parking spaces during the off peak periods. Shared parking allows multiple complementary land uses, whose peak parking demands do not coincide, to share the same pool of parking spaces, resulting in a more efficient use of those spaces.

ULI's Shared Parking, 2nd Edition focuses on the concept of shared parking and peak time variations among different land uses. It provides recommended time-of-day factors for both the weekday and weekend. The factors were based on the percent accumulation of the independent variable for each hour of the weekday and weekend, from 6 am to midnight. All hourly percentages used are documented in ULI's Shared Parking for each particular land use, with the exception of the water park, family entertainment and child care uses, where time-of-day factors from the approved Shared Parking Study are used.



The ULI's Shared Parking also accounts for differences in demand by employees versus customers/patrons. The methodology from the approved PUD Shared Parking Study was utilized to separate the employee parking from the customer parking.

Exhibits 2 through 6 illustrate the shared parking model for each Zone of the Arlington Downs development while Exhibit 7 illustrates the entire Arlington Downs development. The results of the shared parking model are summarized in Table 5.

Table 5 – Required Parking Spaces per Shared Parking Model

Zone	Provided Parking	Weekday				Weekend			
		PUD Rates	Hourly Peak Demand	Peak Parking Time	Peak Surplus/Deficit	PUD Rates	Hourly Peak Demand	Peak Parking Time	Peak Surplus/Deficit
A	408	380	360	7-9 pm	48	378	378	8-9 pm	30
B	414	549	500	5-6 pm	-86	549	460	12-2 pm	-46
C	641	641	641	7-11 pm	0	641	641	7-11 pm	0
D	456	337	298	1-2 pm	158	428	306	7-8 pm	150
E	109	118	112	1-2 pm	-3	163	146	1-2 pm	-37
Total:	2,028	2,025	1,858	6-7 pm	170	2,159	1,814	12-1 pm	214

As illustrated, the peak period of parking demand varies by zone and for the overall development. The residential Zones A and C meet and exceed the peak period parking demand for weekday and weekends. Zone D exceeds the peak period parking demand during a weekday and weekend, with a surplus of 158 and 150 parking spaces, respectively.

Zone B, which includes the water park, family entertainment center, hotel, and conference center is projected to have a parking deficit during the peak periods of 86 spaces during the weekday and 46 spaces during the weekend. During the weekday peak period, the shared parking analysis assumes that the water park, entertainment center, and conference center will be at maximum occupancy. It is anticipated that overflow parking from Zone B could park in the spaces in front of the apartment building or the expanded 71-space surface lot to the east of the apartment building. In addition, Zone D is anticipated to have a parking surplus of 158 spaces during the weekday peak period and 150 during the weekend peak period, providing another parking option.

Zone E will peak during the afternoons and have a deficit of three parking spaces during the weekday and 37 parking spaces during the weekend peak hour. One of the fast food restaurants will have a drive through facility, which may decrease the parking demand for that restaurant. In addition, the restaurant customers may include patrons of the water park and family entertainment center in addition to the apartment residents and hotel guests, which may also decrease the parking demand. Overflow parking from Zone E could utilize the surplus parking in Zone D.



Overall, Arlington Downs is providing 2,028 parking spaces for the site. The weekday peak period demand will occur during the evening hours between 6 pm and 7 pm with 1,858 parking spaces required. Therefore, the site will have a surplus of 170 parking spaces, approximately 8 percent of the site. The weekend peak period demand will occur during the afternoon hours of 12 pm to 1 pm with 1,814 parking spaces required. This will result in a site surplus of 214 parking spaces, about 11 percent of the site.

Summary

For this assessment, parking spaces for the Arlington Downs mixed-use development were calculated using the parking rates from the Village of Arlington Heights Municipal Code, the approved PUD parking rates, and the methodology in ULI's Shared Parking manual. Arlington Downs will provide a total of 2,028 surface and garage parking spaces for the overall development. Utilizing the parking rates from the Village Code results in the overall site requiring 2,526 parking spaces, which would result in a parking deficit of 498 parking spaces. In addition, each of the individual zones would have a deficit in parking with the exception of Zone D, which provides a surplus of 58 parking spaces.

The original PUD Shared Parking Study, dated May 25, 2012 and approved by the Village of Arlington Heights, developed site specific parking demand rates for the various land uses. Utilizing the approved PUD rates results in a total parking demand for the site of 2,025 parking spaces during the week and 2,159 during the weekend. Based on the overall site providing 2,028 parking spaces, there would be a parking surplus of 3 spaces during the week and a parking deficit of 131 parking spaces during the weekend. Zones A, C, and D meet or exceed the PUD required parking while Zones B and E would not meet the PUD required parking.

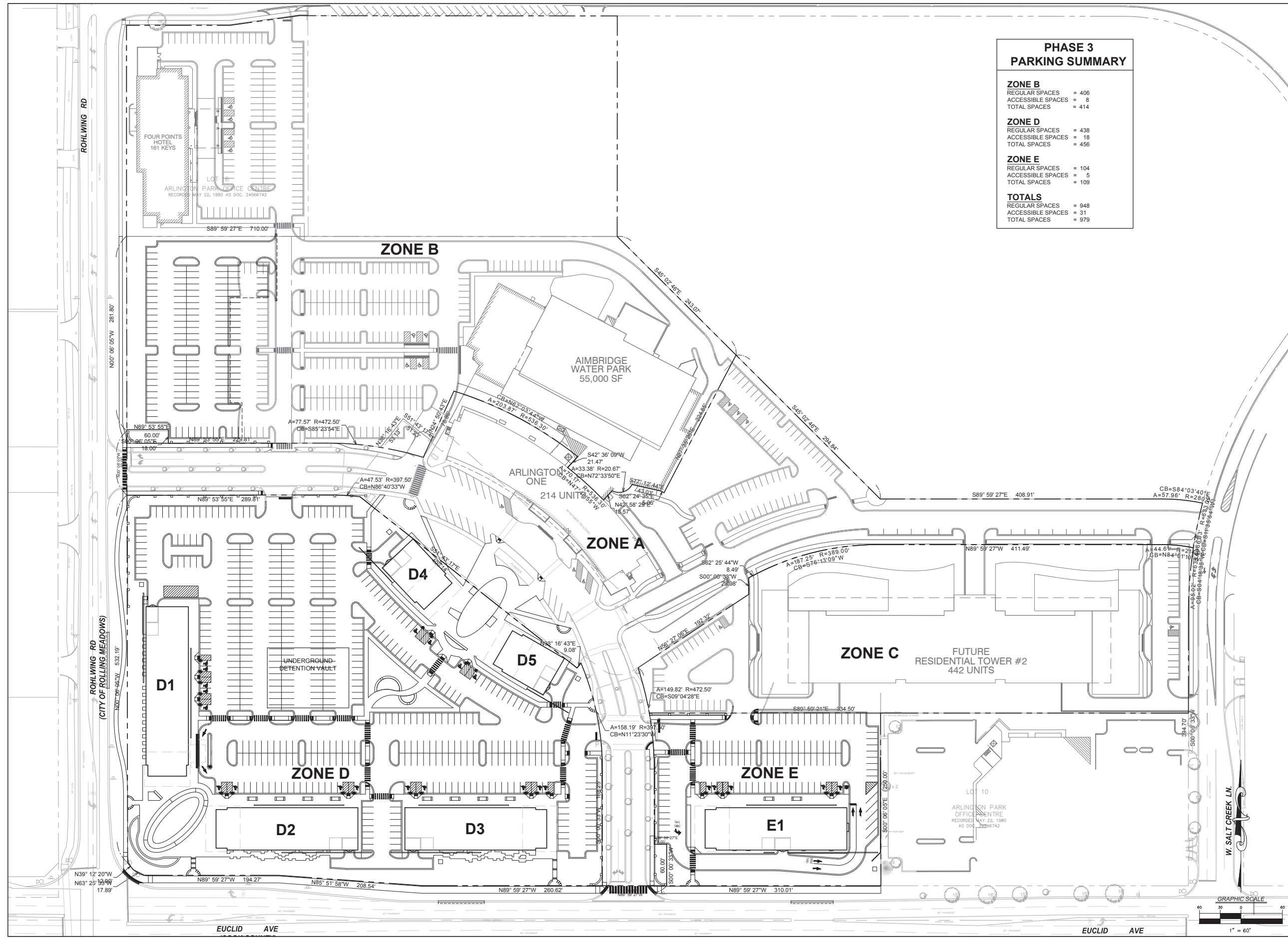
A shared parking analysis was conducted, which analyzes the parking demands of the various land uses based on peak time parking variations among the different land uses. The weekday peak period demand will occur during the evening hours between 6 pm and 7 pm with 1,858 parking spaces required. Therefore, the site will have a surplus of 170 parking spaces, approximately 8 percent of the site. The weekend peak period demand will occur during the afternoon hours of 12 pm to 1 pm with 1,814 parking spaces required. This will result in a site surplus of 214 parking spaces, about 11 percent of the site.

Zones A, C, and D meet or exceed the weekday and weekend peak period parking demand, resulting in a surplus of parking spaces for those zones. Zone B, which includes the water park, family entertainment center, hotel, and conference center is projected to have a parking deficit during the peak periods of 86 spaces during the weekday and 46 spaces during the weekend. It is anticipated that overflow parking from Zone B could park in the spaces in front of the apartment building or the expanded 71-space surface lot to the east of the apartment building. In addition, Zone D provides a surplus of parking which could also be utilized.



Zone E will peak during the afternoons and have a deficit of three parking spaces during the weekday and 37 parking spaces during the weekend peak hour. One of the fast food restaurants will have a drive through facility, which may decrease the parking demand for that restaurant. In addition, the restaurant customers may include patrons of the water park and family entertainment center in addition to the apartment residents and hotel guests, which may also decrease the parking demand. Overflow parking from Zone E could utilize the surplus parking in Zone D.

Based on this parking assessment, it can be concluded that the 2,028 parking spaces proposed for the Arlington Downs development will accommodate the peak parking demand of the development.



**PHASE 3
PARKING SUMMARY**

ZONE B	REGULAR SPACES	= 406
	ACCESSIBLE SPACES	= 8
	TOTAL SPACES	= 414
ZONE D	REGULAR SPACES	= 438
	ACCESSIBLE SPACES	= 18
	TOTAL SPACES	= 456
ZONE E	REGULAR SPACES	= 104
	ACCESSIBLE SPACES	= 5
	TOTAL SPACES	= 109
TOTALS	REGULAR SPACES	= 948
	ACCESSIBLE SPACES	= 31
	TOTAL SPACES	= 979



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DOWNS -
RETAIL

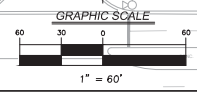
OWNER(S):
ARLINGTON DOWNS WPH, LLC
ARLINGTON DOWNS COMMERCIAL, LLC
PSB / EUCLID, LLC
2920 W. EUCLID AVENUE
ARLINGTON HEIGHTS IL 60005

NO.	DATE	DESCRIPTION
09-30-15	ISSUED FOR PRICING	
09-16-15	ISSUED FOR PRICING	

Revisions

SHEET TITLE:
**OVERALL
SITE PLAN**

SHEET NO.
C3.0



ARLINGTON DOWNS SITE TOTAL
Approximated Parking Demand Peaking Characteristics, by Land Use Component and Time of Day (Weekdays)

Parking Demand Generators, Required Parking, and Associated Peak Parking Requirements																																									
Required Spaces	Shopping Center - Typical (Customer)		Shopping Center (Employee)		Fine/Casual Dining (Customer)		Fine/Casual Dining (Employee)		Family Restaurant (Customer)		Family Restaurant (Employee)		Fast Food (Customer)		Fast Food (Employee)		Hotel - Business (Guest)		Hotel Conference/Banquet (Customer)		Hotel (Employee)		Residential (Guest)		Residential (Reserved)		Medical/Dental Office (Visitor)		Medical/Dental Office (Employee)		Family Entertainment		Water Park		Childcare						
	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion
66	16	173	31	63	11	64	11	129	90	32	98	853	45	23	48	250	22																								
MAXIMUM																																									

TOTAL REQUIRED PARKING WITHOUT SHARED SPACES: 2,025

TOTAL REQUIRED PARKING WITH SHARED SPACES: 1,858

Approximated Parking Demand Peaking Characteristics, by Land Use Component and Time of Day (Weekends)

Parking Demand Generators, Required Parking, and Associated Peak Parking Requirements																																									
Required Spaces	Shopping Center - Typical (Customer)		Shopping Center (Employee)		Fine/Casual Dining (Customer)		Fine/Casual Dining (Employee)		Family Restaurant (Customer)		Family Restaurant (Employee)		Fast Food (Customer)		Fast Food (Employee)		Hotel - Business (Guest)		Hotel Conference/Banquet (Customer)		Hotel (Employee)		Residential (Guest)		Residential (Reserved)		Medical/Dental Office (Visitor)		Medical/Dental Office (Employee)		Family Entertainment		Water Park		Childcare						
	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion	Spaces	Portion
72	18	243	43	91	16	92	16	129	90	32	98	853	45	23	48	250	0																								
MAXIMUM																																									

TOTAL REQUIRED PARKING WITHOUT SHARED SPACES: 2,159

TOTAL REQUIRED PARKING WITH SHARED SPACES: 1,814