Small Format Grocer Trip Projections

Does the traffic analysis reflect a small format grocer in the retail mix? How are these numbers generated? A small format grocer is one that could operate within the approximately 13,000 sf anchor space that has been designed at the corner of Arlington Boulevard and Pershing Drive to accommodate this type of user. Examples of small format stores are Trader Joe's, Bloom, My Organic Market, Balducci's, and specialty ethnic grocers. We have provided traffic projections both with and without a small format grocer included in the projected retail tenant mix.

The trip generation estimates used in the Traffic Impact Analysis (TIA) are based on empirical data from the Institute of Traffic Engineers (ITE). The data provides a likely number of trips per square foot of type of use, and then this factor is applied to actual square footage of the use being proposed. The ITE has developed specialized traffic generation data for grocery stores as a general land use category, based on data generated by existing grocery stores which range in size from under 3,000 sf to over 120,000 sf. However, they do not have a more specialized data series that is based only on grocers of the size proposed.

Projected Trip Modal Splits

What would be the implications of a Transportation Management Plan on the modal split assumptions in the TIA? The modal split assumed in the initial TIA was 27%. This assumption was derived from 2000 census data for the census tract in which the site is located. Generally, implementation of a TMP should increase the modal split over the general pre-existing level, all other things being equal. However, we did not want to make assumptions about this that might skew the projection. We have provided a sensitivity analysis that shows the trip generation data for the project with modal splits between 0% (worst case) and 50% (best case).

Traffic Volume on Barton Street

How will the project contribute to traffic on Barton Street? The TIA projects an additional 2 trips per hour during the morning peak and 7 trips per hour during the afternoon peak on Barton Street north of Pershing Drive. This study also projects 2 trips per hour in the morning peak and 5 trips per hour during the afternoon peak on Barton Street south of Pershing Drive.

How accurate are the traffic projections for Barton Street given the timing of the signal at Arlington Blvd / Pershing Drive? The queuing that occurs along Pershing Drive today at the Arlington Blvd signal is the result of the unusually long timing of the signal. This is imposed by VDOT as they view Arlington Blvd as a limited access highway at this point. There was a question as to whether our traffic projections were accurate given that drivers headed east might avoid this signal and instead use Barton Street as a cut through to the 10th street on ramp to Arlington Blvd.

- The traffic engineer made counts of the existing use and determined that only 2% of drivers using Duron and Lee Centers today use Barton Street to come and go.
- The numbers in the TIA applied this pro rata share of traffic to the projected traffic counts generated by the proposed project.
- It is very difficult to say whether the actual percentage of traffic generated by the new project will maintain this 2% split on Barton Street. In general, many of the retail uses (grocer, restaurants) are projected to be evening ones, when more of the traffic is headed westbound; Barton Street, by contrast, could function as a short cut around the light at Arlington Blvd and Pershing Drive for eastbound traffic only (west bound traffic is not subject to the signal due to the ability to turn right on red). There are traffic-calming measures on Barton Street already that discourage use of the street in this manner.
- We have provided a sensitivity analysis that shows how traffic on Barton Street would be affected if the share of trips using Barton Street increased from the current 2% to varying levels up to 15%. In all of these scenarios, the traffic added on Barton Street by the proposed project is not significant relative to the pre-existing background traffic levels today and those predicted.

Table 1
2201 North Pershing Drive
Trips on N. Barton Street, north of N. Pershing Drive

	Total Future TIA Submitted 11/8/06 [1]		Total Future Zero Percent Mode Split		Total Future 15% Mode Split		Total Future 27% Mode Split		Total Future 40% Mode Split		Total Future 50% Mode Split	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Existing Traffic	231	375										
Existing Shopping Center	4	11										
Future Traffic without the Redevelopment of Lee Center	244	398										
2% of Site Trips on N. Barton	2	7	3	9	2	8	1	7	1	6	1	5
Total Future Link Volume	242	394	243	396	242	395	241	394	241	393	241	392
Percent of Total	0.8%	1.8%	1.2%	2.3%	0.8%	2.0%	0.4%	1.8%	0.4%	1.5%	0.4%	1.3%
5% of Site Trips on N. Barton			10	22	8	19	8	17	6	13	6	12
Total Future Link Volume			250	409	248	406	248	404	246	400	246	399
Percent of Total			4.0%	5.4%	3.2%	4.7%	3.2%	4.2%	2.4%	3.3%	2.4%	3.0%
10% of Site Trips on N. Barton			19	46	17	39	14	34	12	28	10	22
Total Future Link Volume			259	433	257	426	254	421	252	415	250	409
Percent of Total			7.3%	10.6%	6.6%	9.2%	5.5%	8.1%	4.8%	6.7%	4.0%	5.4%
15% of Site Trips on N. Barton			29	67	24	56	21	50	17	41	16	34
Total Future Link Volume			269	454	264	443	261	437	257	428	256	421
Percent of Total			10.8%	14.8%	9.1%	12.6%	8.0%	11.4%	6.6%	9.6%	6.3%	8.1%

Notes:

[1] Total future trip generation per *2201 N Pershing Drive TIA* submitted 11/8/2006: 27% mode split and 2% of site traffic using N Barton Street

Projected Truck Deliveries

How many trucks will deliver to a small format grocer? This depends on the actual tenant and their operations. The Trader Joe's store at Tysons Station in Falls Church, as one example, has two truck deliveries three days a week and three truck deliveries four days a week. These deliveries typically occur at 5 AM, between 9 and 10 AM and at 6 PM. The timing of truck deliveries at our proposed project would be subject to site plan conditions.

Wayne Street Intersection

How will traffic be controlled at the Wayne Street intersection? Wayne Street would have stop signs while Pershing Drive would not. Unfortunately, current and projected traffic counts do not warrant a four-way stop sign at this intersection at this time.

On Street Parking

How many on-street parking spaces are there currently and how many are proposed? Today there are 10 metered spaces on Pershing Drive in front of the property and 4 non-metered parking spaces between the location our proposed alley and Barton Street. We are proposing 17 metered spaces in front of the site on Pershing Drive in addition to keeping the 4 non-metered spaces between our site and Barton Street.

Loading Docks

Can the loading dock for Building #1 be relocated? Based on requests from the community, the loading dock was moved from the west side of the building (along the alley) to the east side across from Building #2. It now opens onto the Central Access Driveway.

Have the loading docks been designed to properly accommodate delivery vehicles? The project includes three loading docks, one in each building which would be shared between the residential and retail for that building, and a third designed specifically for the corner anchor retail space on Arlington Boulevard. A tractor-trailer (18-wheeler) could not fit in these areas, but all three can accommodate a standard 40-foot delivery truck. This is typical for mixed-use projects in denser locations and retail tenants are able to coordinate for their deliveries to come in 40-foot trucks.

Bicycle Parking Tabulation

	Bldg #1	Bldg #2
G1 - Residential	64	0
Ground / First - Retail	22	0
Totals	86	0

Area Tabulations Ground Floor

	Building #1 GFA not allocated to FAR		Building #1 GFA allocated to FAR		Building #2 GFA not allocated to FAR		Building #2 GFA allocated to FAR		Totals	
Retail										
Leasing / Retail	1,657	sf								
1A		sf	6,187	sf		sf		sf		
1B (incl. Retail Corridor)		sf	6,268	sf		sf		sf		
2A		sf		sf		sf	7,872	sf		
2B		sf		sf		sf	13,168	sf		
Subtotal	1,657	sf	12,455	sf		sf	21,040	sf	35,152	sf
Residential										
Lobby	1,462	sf			678	sf				
Corridor		sf				sf				
Stairs /Elevators`	714	sf			506	sf				
Res. Maint. Shop / Util		sf				sf				
Subtotal	2,176	sf			1,184	sf			3,360	sf
Loading / Trash	1,317	sf			3,297	sf				
Parking	23,562	sf			20,550	sf				
Subtotal	24,879	sf			23,847	sf			48,726	sf
									87,238	
Total GFA Allocated to FAR		sf	12,455	sf		sf	21,040	sf	33,495	sf
Total GFA not allocated to FAR	28,712	sf			25,031	sf			53,743	sf
									87,238	sf

Parking Tabulation

	Building #1 Standard	Compact	HC	Total	% Compact	Building #2 Standard	Compact	HC	Total	% Compact	Totals
G1	124	10	3	137	7.3%	98	37	4	139	26.6%	276
Ground/ First Floor	59	0	2	61	0.0%	56	0	3	59	0.0%	120
Totals	183	10	5	198		154	37	7	198		396

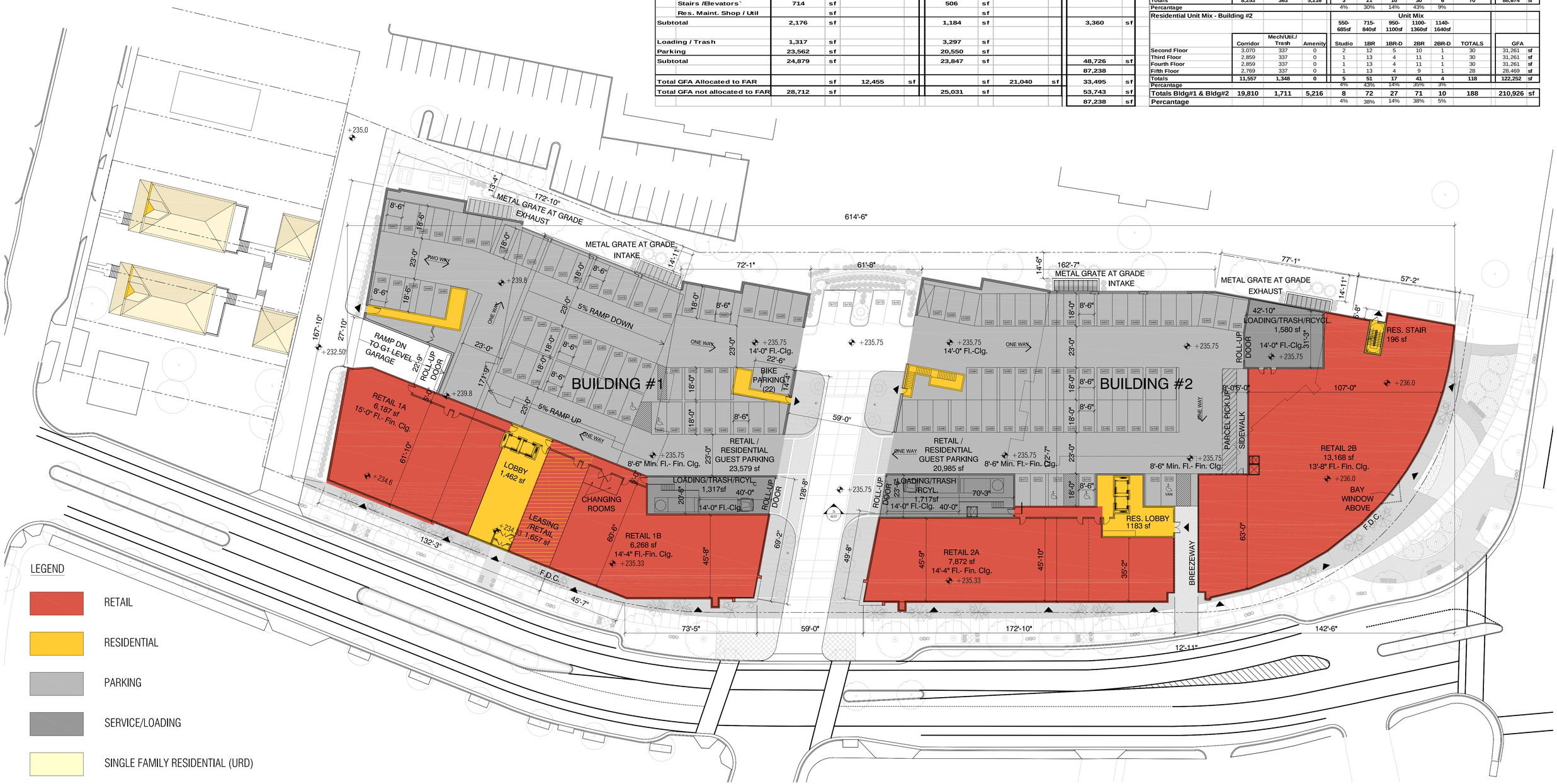
Total Residential	276
Total Retail/Residential Guest	120
Total Number of Spaces	396

Residential Unit Mix - Building #1

	Corridor	Mech/Util./ Trash	Amenity	Unit Mix 550-685sf Studio	715-840sf 1BR	950-1100sf 1BR-D	1100-1360sf 2BR	1140-1640sf 2BR-D	TOTALS	GFA
Second Floor	3,170	121	5,216	1	6	3	8	2	20	30,416 sf
Third Floor	2,577	121	0	1	8	3	12	2	26	30,416 sf
Fourth Floor	2,506	121	0	1	7	4	10	2	24	27,842 sf
Totals	**8,253**	**363**	**5,216**	**3**	**21**	**10**	**30**	**6**	**70**	**88,674 sf**
Percantage				4%	30%	14%	43%	9%		

Residential Unit Mix - Building #2

	Corridor	Mech/Util./ Trash	Amenity	Unit Mix 550-685sf Studio	715-840sf 1BR	950-1100sf 1BR-D	1100-1360sf 2BR	1140-1640sf 2BR-D	TOTALS	GFA
Second Floor	3,070	337	0	2	12	5	10	1	30	31,261 sf
Third Floor	2,859	337	0	1	13	4	11	1	30	31,261 sf
Fourth Floor	2,859	337	0	1	13	4	11	1	30	31,261 sf
Fifth Floor	2,769	337	0	1	13	4	9	1	28	28,469 sf
Totals	**11,557**	**1,348**	**0**	**5**	**51**	**17**	**41**	**4**	**118**	**122,252 sf**
Percantage				4%	43%	14%	35%	3%		
Totals Bldg#1 & Bldg#2	**19,810**	**1,711**	**5,216**	**8**	**72**	**27**	**71**	**10**	**188**	**210,926 sf**
Percantage				4%	38%	14%	38%	5%		



LEGEND

- RETAIL
- RESIDENTIAL
- PARKING
- SERVICE/LOADING
- SINGLE FAMILY RESIDENTIAL (URD)

2201 N PERSHING DRIVE

ARLINGTON COUNTY, VA

1 FIRST FLOOR PLAN

BLDG #1 Ground/ 1st Floor - Retail EL +235.33'
Ground/ 1st Floor - Retail EL +234.60'

BLDG #2 Ground/ 1st Floor - Retail EL +236.00'
Ground/ 1st Floor - Retail EL +235.33'

0 20 50

Scale: 1:25
Date: 2007-10-25

AbbeyRoad PROPERTY GROUP

SK&I Architectural Design Group

A3-2

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	Building #1	Building #2
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1B (incl. Retail Corridor)		sf	6,268	sf		sf		sf		
2A		sf		sf		sf	7,872	sf		
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Subtotal	1,657	sf	12,455	sf		sf	21,040	sf	35,152	sf
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Lobby	1,462	sf			678	sf				
Corridor		sf				sf				
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Res. Maint. Shop / Util		sf				sf				
Subtotal	2,176	sf			1,184	sf			3,360	sf
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									87,238	sf

Parking Tabulation

	Building #1 Standard	Compact	HC	Total	% Compact	Building #2 Standard	Compact	HC	Total	% Compact	Totals
G1	107	13	3	123	10.6%	90	45	4	139	32.4%	262
Ground/ First Floor	59	0	2	61	0.0%	56	0	3	59	0.0%	120
Totals	166	13	5	184		146	45	7	198		382

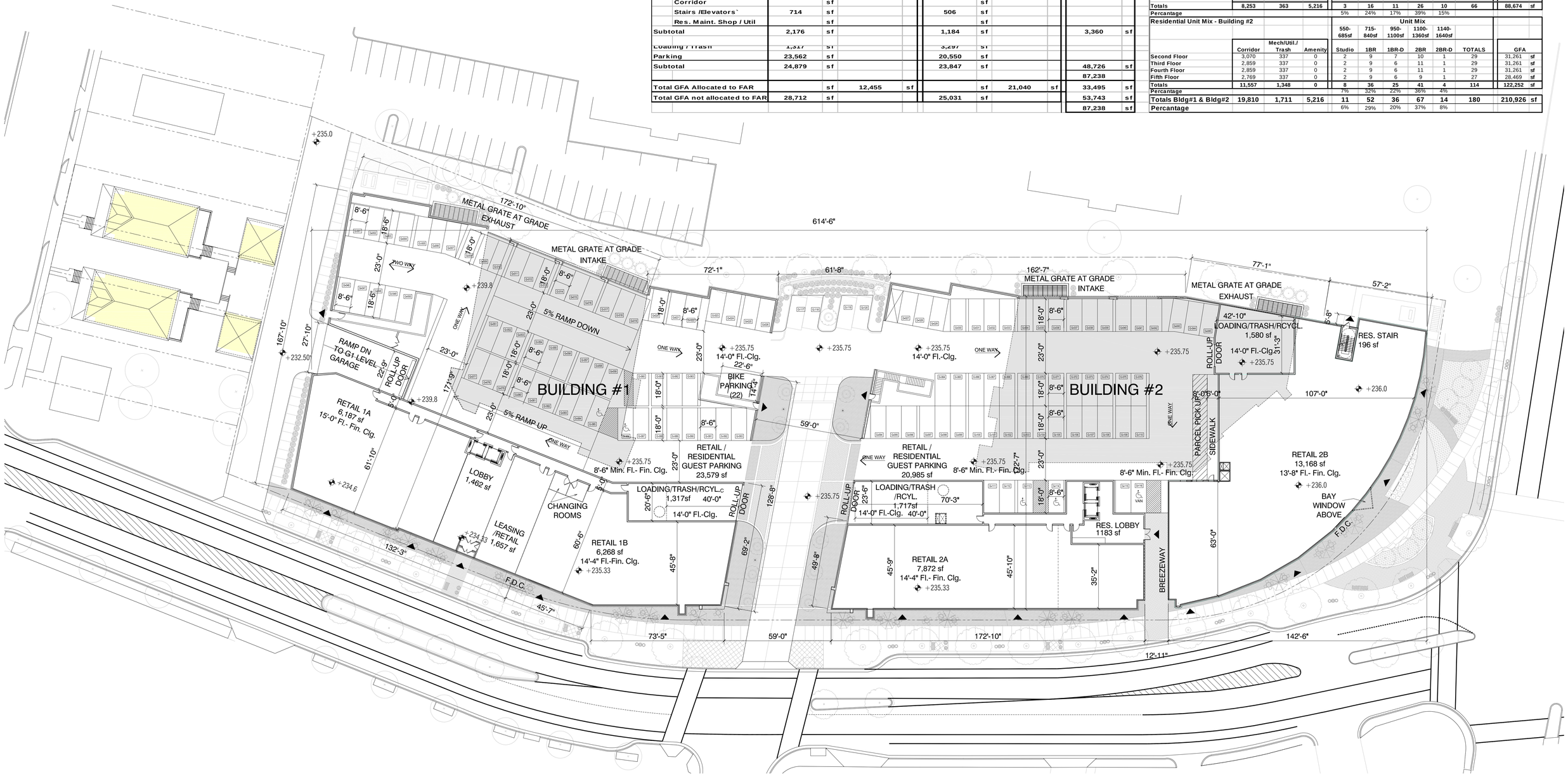
Total Residential	262
Total Retail/Residential Guest	120
Total Number of Spaces	382

Residential Unit Mix - Building #1

				Unit Mix 550-685sf Studio	715-840sf 1BR	950-1100sf 1BR-D	1100-1360sf 2BR	1140-1640sf 2BR-D	TOTALS	GFA	
	Corridor	Mech/Util./ Trash	Amenity								
Second Floor	3,170	121	5,216	1	5	4	8	2	20	30,416	sf
Third Floor	2,577	121	0	1	6	3	10	4	24	30,416	sf
Fourth Floor	2,506	121	0	1	5	4	8	4	22	27,842	sf
Totals	**8,253**	**363**	**5,216**	**3**	**16**	**11**	**26**	**10**	**66**	**88,674**	**sf**
Percantage				5%	24%	17%	39%	15%			

Residential Unit Mix - Building #2

				Unit Mix 550-685sf Studio	715-840sf 1BR	950-1100sf 1BR-D	1100-1360sf 2BR	1140-1640sf 2BR-D	TOTALS	GFA	
	Corridor	Mech/Util./ Trash	Amenity								
Second Floor	3,070	337	0	2	9	7	10	1	29	31,261	sf
Third Floor	2,859	337	0	2	9	6	11	1	29	31,261	sf
Fourth Floor	2,859	337	0	2	9	6	11	1	29	31,261	sf
Fifth Floor	2,769	337	0	2	9	6	9	1	27	28,469	sf
Totals	**11,557**	**1,348**	**0**	**8**	**36**	**25**	**41**	**4**	**114**	**122,252**	**sf**
Percantage				7%	32%	22%	36%	4%			
Totals Bldg#1 & Bldg#2	**19,810**	**1,711**	**5,216**	**11**	**52**	**36**	**67**	**14**	**180**	**210,926**	**sf**
Percantage				6%	29%	20%	37%	8%			



2201 N PERSHING DRIVE

ARLINGTON COUNTY, VA

1 FIRST FLOOR PLAN

Ground/ 1st Floor - Retail BLDG #1 EL +235.33' | Ground/ 1st Floor - Retail BLDG #2 EL +236.00'

0 25 50

Scale: 1:25
Date: 2007-09-17

AbbeyRoad PROPERTY GROUP

SK&I Architectural Design Group

A3-2

Figure 1A
Swept Area Diagram with 40' Single Unit Truck – West Bay Inbound

Vehicle Body
Front Tire Tread
Rear Tire Tread
Directional Path

North

Lee Center
Arlington County, Virginia

Wells + Associates, Inc.

Figure 1B
Swept Area Diagram with 40' Single Unit Truck – West Bay Outbound

Vehicle Body
Front Tire Tread
Rear Tire Tread
Directional Path

North

Lee Center
Arlington County, Virginia

Wells + Associates, Inc.

Figure 2A
Swept Area Diagram with 40' Single Unit Truck – East Bay Inbound

Vehicle Body
Front Tire Tread
Rear Tire Tread
Directional Path

North

Lee Center
Arlington County, Virginia

Wells + Associates, Inc.

Figure 2B
Swept Area Diagram with 40' Single Unit Truck – East Bay Outbound

Lee Center
Arlington County, Virginia

Wells + Associates, Inc.

Figure 3A
Swept Area Diagram with 40' Single Unit Truck – Grocery Store Inbound

Vehicle Body
Front Tire Tread
Rear Tire Tread
Directional Path

North

Lee Center
Arlington County, Virginia

Wells + Associates, Inc.

Figure 3B
Swept Area Diagram with 40' Single Unit Truck – Grocery Store Outbound

Vehicle Body
Front Tire Tread
Rear Tire Tread
Directional Path

North

Lee Center
Arlington County, Virginia

Wells + Associates, Inc.

Queuing on Pershing Drive

How will the project impact vehicle queuing during AM peak hours, for traffic waiting to turn left from Pershing Drive onto eastbound Arlington Boulevard? Traffic from the project would not cause a significant difference in queuing on Pershing Drive during AM peak hours.

The proposed Pershing Drive improvements associated with the project would extend the existing double left hand turn lane from 150 feet (existing) to 160 feet (proposed) and extend the existing taper area, where the second lane starts, from 50 feet (existing) to 170 feet (proposed), with 41 feet available for vehicle storage. The project would generate 24 additional AM peak hour left turn movements in this location, a 9% increase over the existing 266 left turn movements. The net impact of the 24 additional trips, after implementing the longer double left turn lane, is that the average queue would increase from 148 feet (existing) to 169 feet (proposed), or a little under one car length.

The majority of AM peak hour trips would be residential (68%) and would access Pershing Drive from the alley on the western side of the site. Due to this division of traffic between the retail and residential uses, there would not be any stacking on the Central Access Driveway, and there would be room in the existing queue for the residential traffic to turn left onto Pershing.

Weekday AM Traffic Queues on Pershing Drive

Comments:

- Proposed condition increases the length of 2nd left hand turn lane by 10 feet with an additional 41 feet in the taper available for vehicle storage.
- Average queue grows by less than one car length.
- Majority of AM traffic from proposal enters from the western alley, not the central access driveway.
- Proposal only generates 24 lefts onto Arlington Blvd per AM peak hour out of 290 lefts projected.